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Subject

H-1297-1 Creating Section 508 Compliant Documents

1. Explanation of Material Transmitted: This handbook provides step-by-step instructions to assist BLM employees in creating accessible documents compliant with Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794d). Section 508 requires the federal government to ensure that the electronic and information technology that it develops, procures, maintains, or uses is accessible to persons with disabilities.

2. Reports Required: None.

3. Material Superseded: None.

4. Filing Instructions: File as directed below.

REMOVE   INSERT

                                          Total: 108 sheets

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Handbook for Creating Section 508 Compliant Documents

This document contains basic recommended guidelines for development of documents and PDF files.

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Chapter 1 - Introduction to 508 Compliance

Section 508 of the Rehabilitation Act of 1973 (Section 508) requires the federal government to ensure that the electronic and information technology that it develops, procures, maintains, or uses is accessible to persons with disabilities. Section 508 Standards are part of the Federal Acquisition Regulation (FAR) and address access for people with physical, sensory, or cognitive disabilities. They contain technical criteria specific to various types of technologies and performance-based requirements, which focus on functional capabilities of covered products. Specific criteria cover hardware, software applications and operating systems, web-based information and applications, computers, telecommunications products, video and multi-media, and self-contained closed products.

The BLM no longer prints many of its documents, but posts them to the internet. While documents are now much more accessible, and it is a very cost effective and an environmentally responsible way to distribute information, individual authors now assist in carrying out the requirements to ensure Section 508 compliance. This handbook provides step-by-step instructions to assist BLM employees in creating accessible documents compliant with Section 508.

Thanks to the National Wildfire Coordinating Group for all of their work on this document.

What is 508 Compliance?

508 Compliance is a web-based standard by which documents, video, multimedia, and websites are developed to allow equal access to information for all individuals with sensory impairments. Individuals with visual or hearing impairments can then use assistive technology software to interpret the content and provide either screen captions or have the content read out loud to the user.

Purpose

Section 508 requires that when any federal agencies develop, procure, maintain, or use electronic information technology, any person with a disability has access to and use of information, and data that is comparable to the access and use by federal employees who are not individuals with disabilities.

How does this law impact my program?

- All federal agencies are required to ensure that their websites and the contents are compliant with Section 508 of the Act.
- Video that appears on government websites must be captioned for the deaf and hard of hearing.
- PDF documents and forms on government websites must be accessible to blind and low vision individuals, both government employees and the general public.

Chapter 2 - Microsoft Word Document Creation

Please Read First

Following are some of the most common mistakes made when converting documents to PDF. Avoid these mistakes to save time and frustration:

A. Font Group versus Style Group

Figure 1 - Home Tab Ribbon Bar
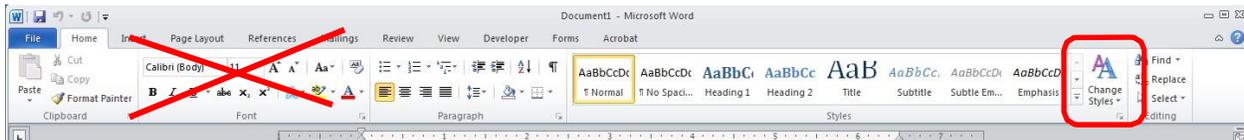
Avoid using the Font Group on the Home tab of the ribbon bar to change the font, size, color, etc. The **Styles** group allows the document to maintain formatting required for Adobe Acrobat to interpret the documents structure when converting to PDF. **Styles** also are instrumental in developing the **Table of Contents (TOC)** which allows for easy navigation in MS Word and Bookmarks in PDF. This is probably the most important step you will take in creating accessible MS Word documents. If you use the Font window to change a Style it **will** break the formatting. For more information visit Chapter 3A, "**Styles**."

B. Tables

If constructed incorrectly, tables can be very time intensive to fix in PDF. Please read the section on tables and learn the proper way to create them. For more information visit Chapter 3V, "**Tables**."

C. Lists

Lists are also very time intensive to fix in PDF. Always use the **Paragraph Group List** formats when creating bulleted or numerical lists. For more information visit Chapter 3H, "**Bullets and Numbered Lists**"

D. Fillable Forms

The only way to create a 508 compliant fillable PDF form is to create the fillable areas in the Adobe Acrobat PDF. Fillable areas created in other programs **will not** transfer when converted to PDF. For more information visit Chapter 3GG, "**Forms**."

E. Backgrounds, Fancy Borders, and Text Boxes

Backgrounds, fancy borders, and text boxes are visually appealing, but can cause many difficulties when trying to create a 508 compliant PDF. When converted to PDF, backgrounds, fancy borders, and often text boxes are read as images and text in text boxes will not read. Anything read as an image will require alt text within the PDF or have to be converted to

backgrounds. For more information visit Chapter 3M"**Avoiding Text Boxes**."

F. Symbols

Special Characters using fonts such as Wingdings are likely to fail. They throw encoding errors which are **very** hard to fix in PDF. Instead, on the **Insert Tab** use **Symbols** utilizing a standard font, or Alt + Keys to create special characters such as check boxes, etc. If you get encoding errors in your PDF, you've used the wrong type of characters. For more information visit Appendix 2, "**Symbol Shortcuts**."

G. Special Effects

Remove any drop shadows, glows, bevels, etc. from any text that is not inside a shape and that will be converted to PDF for electronic web submission. Sorry.

H. Additional "Do's and Don'ts"

Do

1. Include alternative text for all graphics/images. Summaries have to be done in the PDF as they do not stay when documents are converted to PDF.
2. Include appropriate keywords, document titles, and subject under properties.
3. Number your pages using the automated 'page numbers' option. See "**Page Numbering**"
4. Use page breaks to start a new page instead of hitting return till you reach a new page. Press **Control + Enter**.
5. Put periods or commas at the end of each list item. This may not be grammatically correct, but assistive technology needs the period or comma to recognize and pause at the end of a line of text. Otherwise, all list text would read in a continuous, non-stop string.
6. Optimize and reduce graphic file size and dimensions in MS Word. See "**Optimize Images and Graphics.**"
7. Use an Underscore or Dash between words in a filename, never spaces. Spaces show up as %20 symbols when uploaded to a website.

Don't

1. Write-protect the document.
2. Put any personal information in the document.
3. Use a period, slash, or other special characters (!, @, #, $, %, ^, &, *, etc.) when creating filenames. Periods are reserved for file extensions and are automatically appended to the end of a filename. Slashes indicate directory structure.
4. Underline text – it can make reading difficult for some.
5. Use all caps in body text.

I. New Document Set-up

Document properties, also known as metadata, are details about a file that describe or identify it. Document properties include details such as title, author name, subject, and keywords that identify the document's topic or contents.

This information can be viewed without opening the document and helps users decide whether or not to open it. Properties are also important for documents that are posted on websites. Search engines use this information to identify documents that users might want to look at more closely.

1. In MS Word 2010 open your document.
2. Click on **FILE** (new screen will appear).
3. On the right side click on word **PROPERTIES**
4. Click on **ADVANCED PROPERTIES** – Summary screen will appear.

Figure 2 - Properties Dialog Box
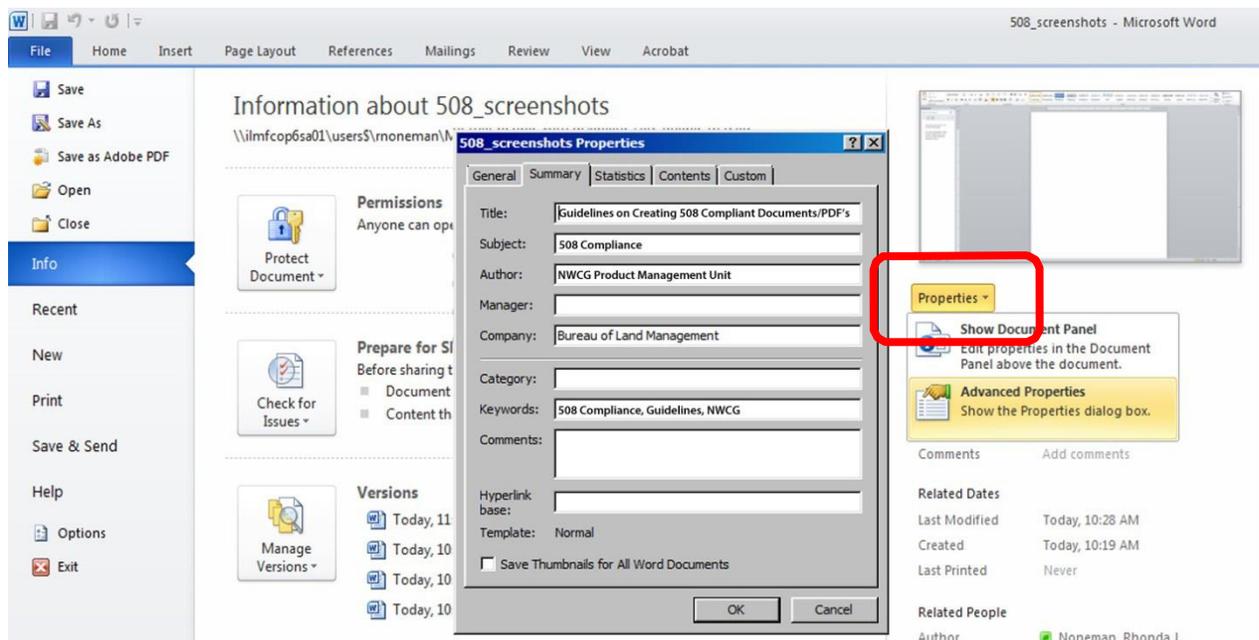
File: Displays the name of the file. Try to use short descriptive names with a date.
Title: Actual title of the document.
Subject: Brief identification of the subject of the document.
Author: Your Committee name.
Company: Branch name. Example: "National Wildfire Coordinating Group."
Keywords: The keywords are associated with the document during a search and will effectively rank the document for relevance. The closer the search words match your keywords, the higher the document will be ranked in the search. When using multiple keywords, separate them with a comma.
Be sure to choose words that are relevant to the content

Set a default language for the document.
Select the **File** tab and then **Options**.
Select **Language** in the navigation panel. Be sure U.S. English is chosen as the default language. If it isn't, locate it in the drop-down menu and choose **Add**.
Select **OK** when you're finished.

Chapter 3 - Formatting your Document

Properly formatting your document is essential. It will help your document maintain a clean and consistent look, save you time when editing, and be much more accessible.

A. Styles

Styles are so important to document creation that roughly half of that toolbar is taken up with the styles. Styles not only affect the look of text, but they also embed hidden structure codes which help screen readers to better navigate the document as well as create bookmarks for PDFs.

Rather than changing font size, color, and font-face from the Font Group on the ribbon bar, **you need to use the built-in headings in the Styles Group** – so that the structure of your document becomes screen-readable and navigable.

In Word 2010, the Styles tools appear on the Home tab of the ribbon bar.

Ideally, you should have no more than 10 to 20 styles in use. The fewer the number of styles, the cleaner your document is and the easier it is for Assistive Technology to understand the document structure and hierarchy.

From the **Styles Group**, select the double down button at the bottom right corner or press (**ALT+ CTRL + SHIFT + S**) to show the Styles window.

Figure 3 - Styles Group Button
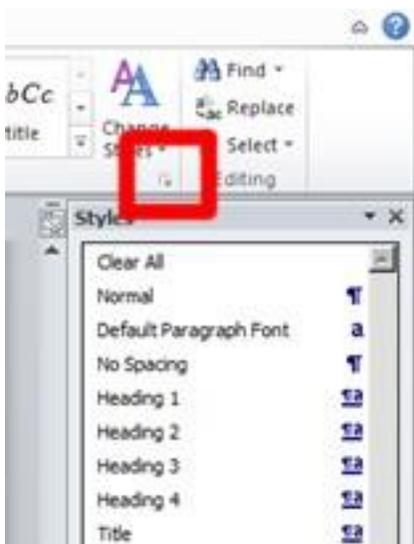
1. From the bottom of the Styles window select **OPTIONS** to bring up the **Style Pane Option Window**.
2. Go to the "**select styles to show**" drop down option and select "**IN USE**" to see the current styles in use within the document. You can choose the default, or select another. If you want to modify the Styles, you can save them as a new template for later use.

*There is more information below for assistance creating your own Style Set.

More information on creating styles (paragraph styles such as text alignment or tabs) is available on the Microsoft website at: http://office.microsoft.com/en-us/word-help/style-basics-in-word- HA102647012.aspx.

B. Headings

A good heading structure is probably the most important accessibility consideration in most Word documents. Headings will allow screen readers to navigate through the page easily and will make the page more usable for everyone. Heading structure also provides the bookmark formatting for PDFs.

Headings should be used to convey structural information about a document — indicating main points and sub-points.

Figure 4 - Heading Hierarchy
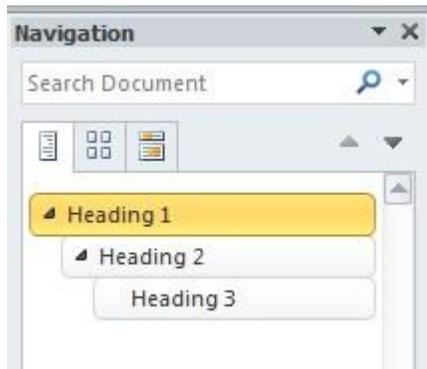
Headings create the necessary hierarchy for navigation in both MS Word, and bookmarks in PDFs. Try to use only three heading levels to keep the table of contents easy to navigate.

Figure 5 - "Built-in" Styles Panel Group
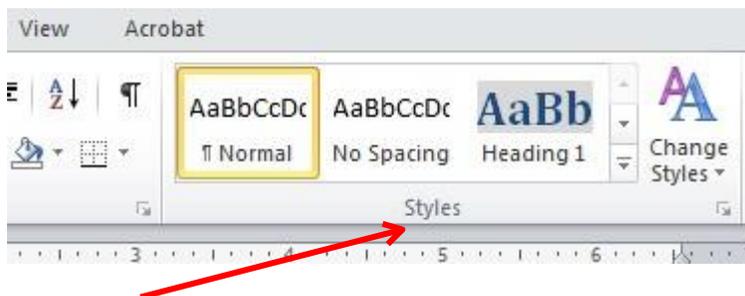
Use "built-in", predefined styles to create titles, section headings, captions, etc.:

- **Title:** used only for the document's title page (to be used only on the cover, or at the top of the document).
- **Heading 1**: used for major headings in the document.
- **Heading 2**: used for sub-headings of H1 in the document.

- **Heading 3**: used for sub-sub headings of H2 in the document.
- The body of text in your document should use the style "**Normal**."
- **Captions:** use captions for figures and tables. It will automatically renumber each element if you have to insert more at a later time.

If you want to change the appearance of a style, simply right-mouse-click on its name and select **MODIFY**.

"**Strong** vs **Bold**" We previously said that you should not use the font group on the ribbon bar to change font features. However, there are exceptions. Use Strong from the Styles panel if you want a screen reader to pronounce STRONGLY a word ─ for example someone yelling FIRE, and use bold when the word simply needs to visually be pronounced.

C. Create Your Own Style Set

You can create your own Style Set to be saved and used on other documents or shared with others so documents maintain a consistent theme.

To set up or alter a Style Set:

1. From the **Change Styles Group**, select **Style Sets.**

Figure 6 - Style Sets drop down options
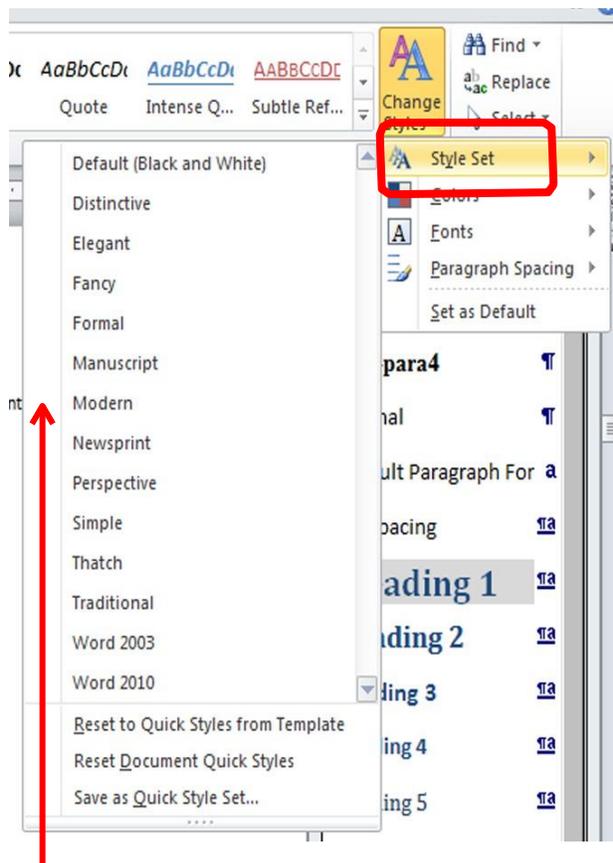
2. From the fly out menu choose Default, or choose a style with elements that you like, which you won't have to edit much.
3. Use the double down arrows, or press ALT + CTRL + SHIFT to bring up the styles pane.

Figure 7 - Styles Pane
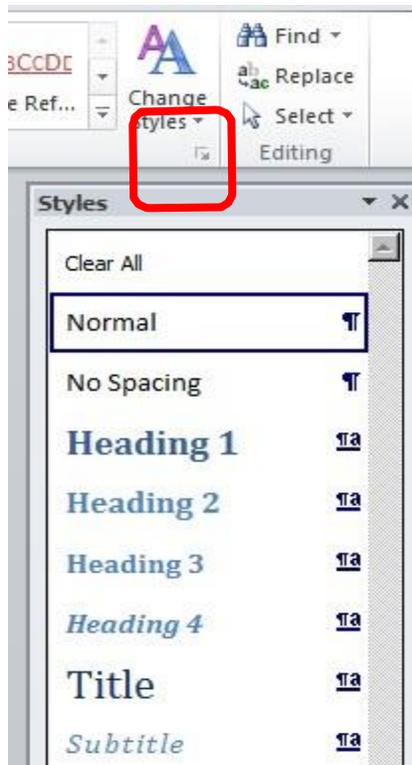
4. In the **Styles Pane**, change font, size, color, etc. by selecting a style element and using the arrow down button or right clicking, and then select "**Modify**."
5. If you don't see a style in the panel (i.e.; caption, TOC, etc.), you can check to see if it is hidden, or add a new style by selecting the appropriate button at the bottom of the **Styles Panel** (**new style**, **style inspector**, or **manage styles**).

Figure 8 - Styles Options Buttons
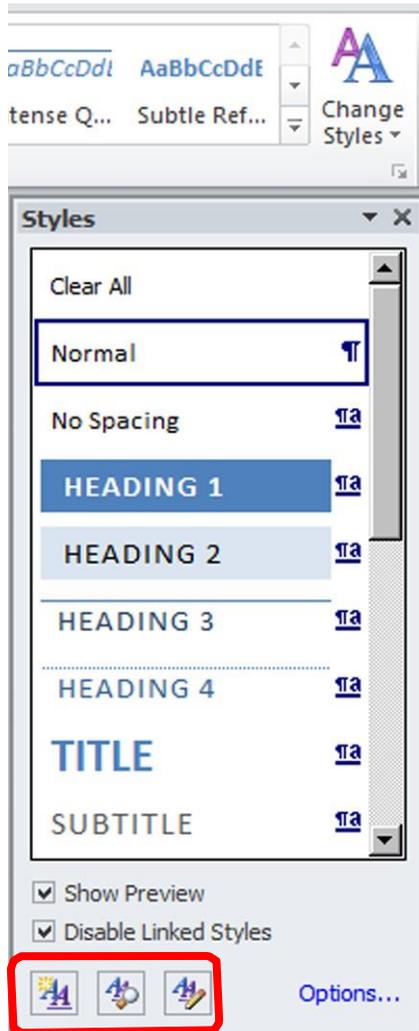
Note: It is suggested you limit your document to two fonts, and reserve one color for headlines or text you want to bring special attention to. Too much variety can cause the document to look busy and unprofessional, causing it to be hard to read.

6. After you have made your style changes, click on the **Change Styles** button, highlight **Style Set**, and choose **Save as a Quick Style Set** in the fly out menu.

Figure 9 - Save Quick Style Set Menu
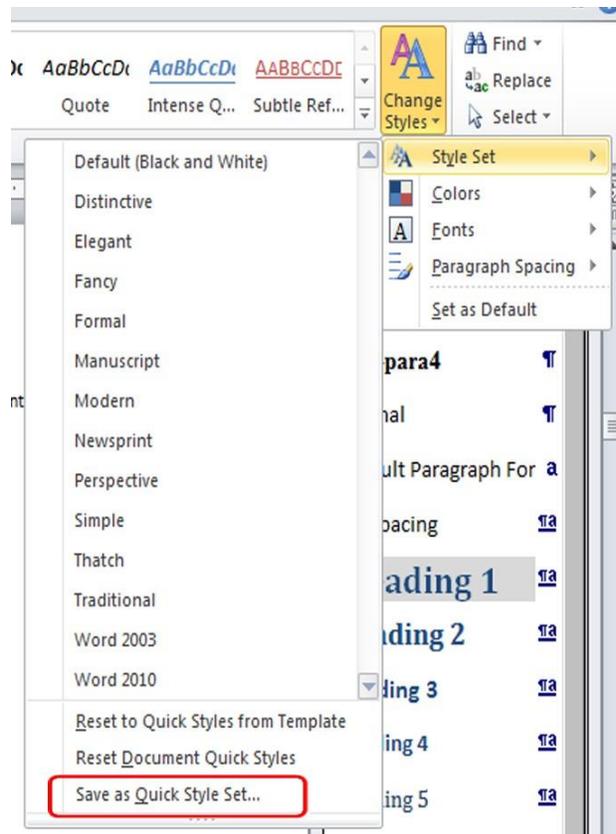
7. **Save** with a new **File Name** that clearly identifies this new style set. You now have a Style Set that you can use each time you open MS Word

DO NOT create a second set of headings or other elements in a Style Set. Acrobat will only recognize one of each.

D. Sharing Style Sets

You can share a template of the document with your new style set and then upload to your Google Drive or email to colleagues. They can then open the file and save the style as a QuickStyle set that will be saved to their computer.

The Style set is saved to: C:/users/user name/Appdata/Roaming/Microsoft/Quickstyles.

To delete a Quickstyle Set go to: C:/Program files/Microsoft Office/Office14/1033/QuickStyles.

E. Recommended Fonts

Not all fonts are compatible with screen readers, and unfortunately, Section 508 of the

Rehabilitation Act does not specify which fonts are compatible. As a general rule, Times New Roman and Arial are two of the most common fonts with the greatest readability, and have the greatest cross-platform compatibility with Microsoft, Macintosh, and UNIX based systems.

There is a list of Microsoft tested fonts at the end of this document. For more information visit Appendix 1, "**Font Index**."

F.   Table of Content

Setting up the Table of Content (TOC) in MS Word is as simple as pushing one button. TOC uses the Heading Styles to determine the content structure of your document. In fact, Table of Contents, or TOC's, are so simple and easy to update. NEVER again will you manually type a TOC.

1.   Go to the first page of your document and place your cursor on the line just under the Title and before any paragraph text. You may have to create a hard return to create a space to place your cursor.
2.   Go to the **Insert Tab** and select **Page Break**.
3.   Next go to the **Reference tab** and click on the **Table of Contents** button.
4.   Select one of the preset styles.
5.   Presto. You have a Table of Contents.
6.   You can place your cursor right under the table of contents and add another page break if you want your table of contents on its own page.
7.   As you add new sections with headings to your document, you will want to place your cursor in the TOC, go back to the **Reference tab**, select **Update Table** next to the TOC button and select **Update Entire Table**. The updated table will have your new sections as long as you used Headings Styles.
8.   To alter the number of levels within your TOC, click on the **Table of Contents** button, select **Insert Table of Contents**, and set the number desired.
9.   Click **Okay** and say **Yes** when it asks you if you want to replace the current Table of Contents.
10. **DO NOT** make manual changes to your TOC within your document or it will not work afterwards. If you do, you will need to go to the **Reference tab**, click on table of contents and **Remove the TOC**. You will then have to insert a new TOC following the steps previously mentioned.
11. If you want the **TOC** to be seen in the navigation pane, use **Heading 1**. If not, use **TOC Heading** found farther down in the **Styles** panel.

G.   Paragraph Formatting

Paragraph formatting will help your document maintain the correct document structure. Using the space bar instead of setting up the "Indent Text" in paragraph styles, or using the tab key instead of the "Center Text" option in the Paragraph Group are two very common mistakes that can break Styles formatting and make updating a document very time consuming.

Paragraph formatting should be done when setting up your Styles from the Styles Group panel.

Figure 10 - Styles Panel Formatting
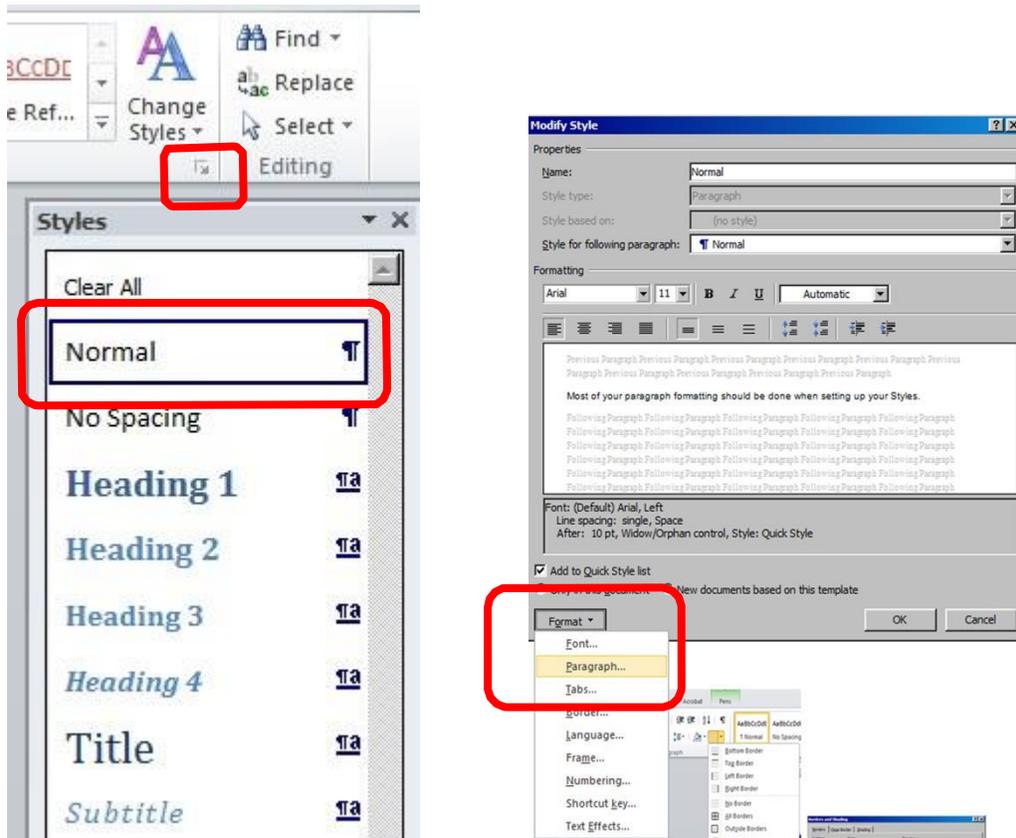
1. Use the double down arrow to open the Styles panel.
2. Right click on the Style and choose **"Modify."**
3. In the bottom left corner open **Format** and select **Paragraph**.

Figure 11 - Paragraph Formatting Window
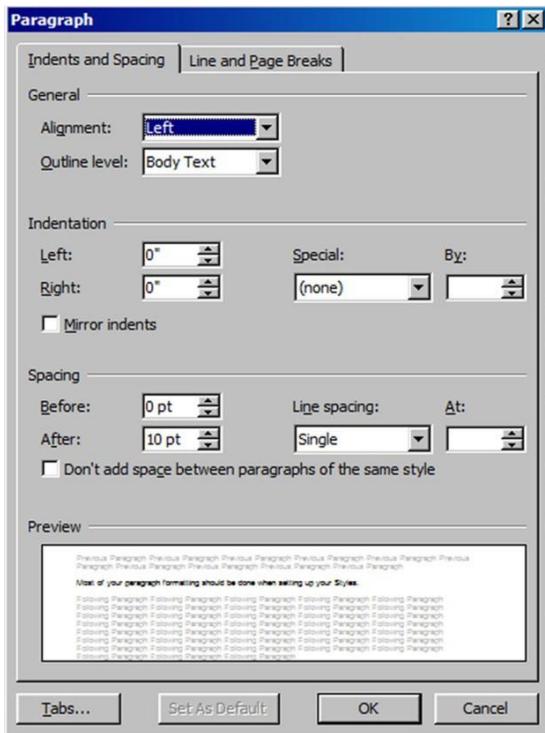
4. Set your paragraph options in the paragraph window; indents, spacing before and after paragraph, line spacing, alignment, etc.

H. Bullets and Numbered Lists

Avoid using graphical (or non-standard) bullets because they may not be recognized by some Assistive Technology. For a document to be fully compliant with section 508, bullets and numbers must be created automatically, not inserted manually:

1. From the **Home** tab, click the **Bullets or Numbering** icons in the **Paragraph** group.
2. If you are selecting a bullet, choose a bullet style from the drop-down list.
3. If you are selecting a number, choose a number style from the drop-down list.
4. The bullet or number will appear in the text as you type.

Figure 12 - Bullets and Numbered Lists Buttons
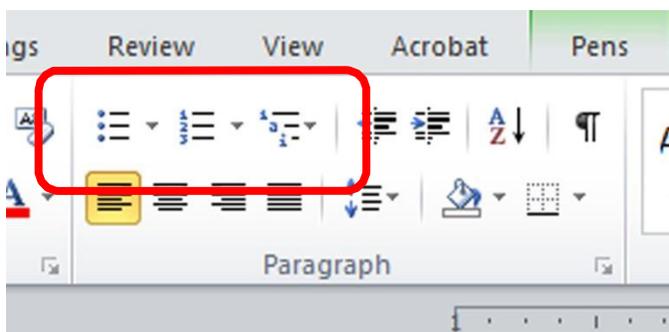
Group items as numbered lists (if they are sequential) or bulleted (if they are related) so they will be announced as lists by screen readers.

I. Captions

Use captions when inserting images or tables. If you need to insert more elements later on, it will automatically renumber all other elements. We suggest inserting your caption above the graphic or table so the user is aware of what will be read next.

Figure 13 - Insert caption
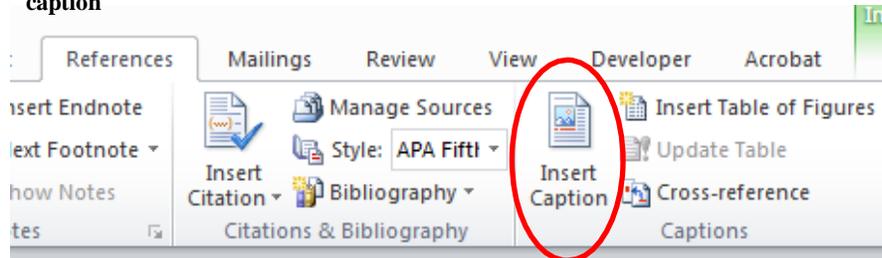
1. You may either use menu bar **References>Insert Caption** or right click mouse "**Insert Caption.**"
2. Under "**Label**" choose whether it is a figure or table.
3. Type a short description.
4. Create a new label style or set numbering preference. Example: Figure 1, or Figure 1.1 (chapter 1, section 1), Figure 2.1 (chapter 2, section 1), etc.

Figure 14 - Caption menu
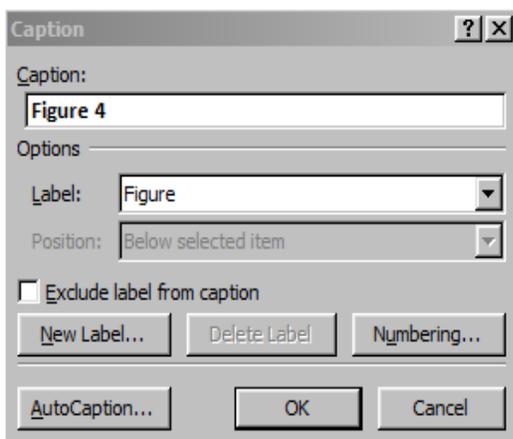
J. Automatic Footnotes

When creating a footnote, using automatic footnotes instead of typing them in manually will make a document 508 compliant. You should number continuously if you are putting the notes at the end of the document, by page if you will put your notes at the bottom of your page:

1. At the place in the text where the footnote is to appear, click **Insert Footnote** from the **Footnotes** group on the **References** tab.
2. The footnote number will be added next to the text and the cursor will be placed at the bottom of the page.
3. Type the footnote text next to the footnote number. When finished, click back on the paragraph and continue typing.

K. Headers and Footers

Do not place vital content in the header or footer. Screen readers do not read content located in the header or footer. Use the header or footer area for repetitious content such as page numbers, document numbers, etc. – things that don't need to be read for every page.

Insert a Header or Footer by going to **Insert** tab, **Header & Footer** and choose a style in the drop down. Or simply double click at the top or bottom of a page. To leave the header and footer area, double click in the main body of the document.

L. Page Numbering

There are two ways to insert Page Numbers, either directly on the page or in the footer area. First, use the automatic **Page Number** found in the **Header & Footer** group under the **Insert tab,** and place your number at the top or bottom of the page. Second, double click in the **Footer** area and insert a **Page Number** from the **Header and Footer Group**. Both are correct. Inserting the Page Number in a Footer keeps the page number from being read on every page. We suggest placing your page numbers in the Footer.

Figure 15 - Page Number Drop-down Options
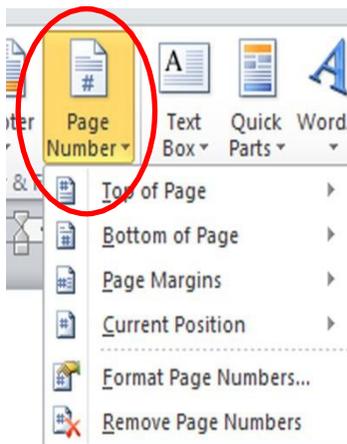
Start numbering on a different page

If you will be using a title page and possibly a preface, you may want to start the numbering on a different page. To start numbering on a different page, instead of on the first page of the document, you need to add a section break before the page where you want the numbering to begin.

1. Click at the beginning of the page where you want the numbering to begin.
2. You can press **HOME** to make sure that you're at the start of the page.
3. On the **Page Layout** tab, in the **Page Setup** group, click **Breaks**.
4. Under **Section Breaks**, click **Next Page**.

Figure 16 - Page Breaks
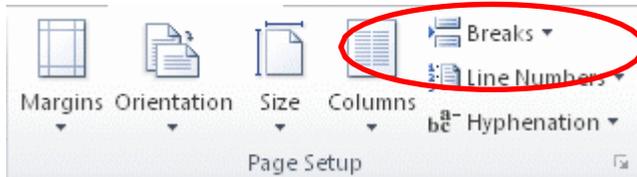
5. Double-click in the **Footer** area of the same page (near the bottom of the page).
6. This opens the **Header & Footer Tools** tab in the ribbon bar.
7. In the now visible **Header & Footer Tools**>**Navigation** group, click **Link to Previous** to un-highlight, which turns it **off**.
8. With your cursor still in the **Footer** area, click on **Page Number** in the **Header & Footer** group on the ribbon bar and add page number to bottom (footer area).
9. To start numbering with 1, click **Page Number** in the **Header & Footer** group, then click **Format Page Numbers**, click **Start at,** and **enter 1**.

Figure 17 - Format Page Numbers
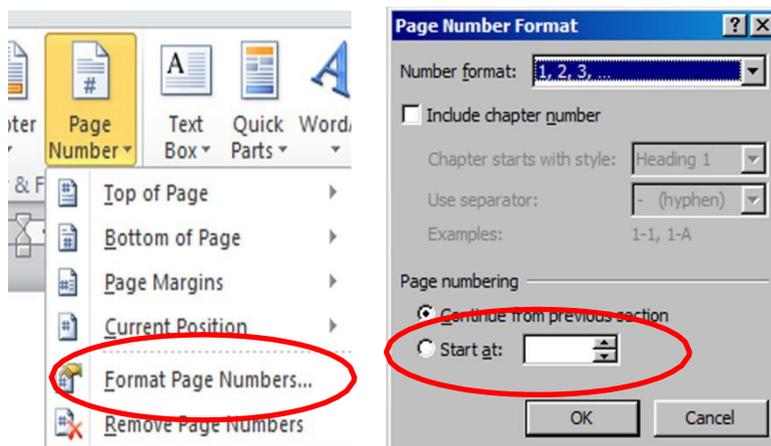
10. Double click in the body of your document leave the footer area, or click **Close Header and Footer** on the **Design** tab (under **Header & Footer Tools**).
11. Note: you may need to manually delete numbers from pages prior to the page break if your document already had numbers.

M. Avoiding Text Boxes

Text boxes provide a means to add text to a document, and locate it anywhere on the page. Unfortunately, text boxes work more like images than text. Because of this, text boxes only show up in the 'print layout' view, and Screen Reading technology is unable to access the information in a text box.

Instead of using text boxes, style formatting can be used to locate the text in the desired area on the page. Style (paragraph-level) formatting may take a few more steps to achieve than using text-boxes, but style formatting is much more accessible for Screen Readers.

Text Boxes Alternatives

In-Line text, using borders (simply a paragraph of text with borders around it), is another alternative to text boxes. However, use **ONLY** solid borders as several of the fancy borders will throw 508 compliancy errors.

1. From the **Home** Tab, open **Borders and Shading.**

Figure 18 - Borders and Shading
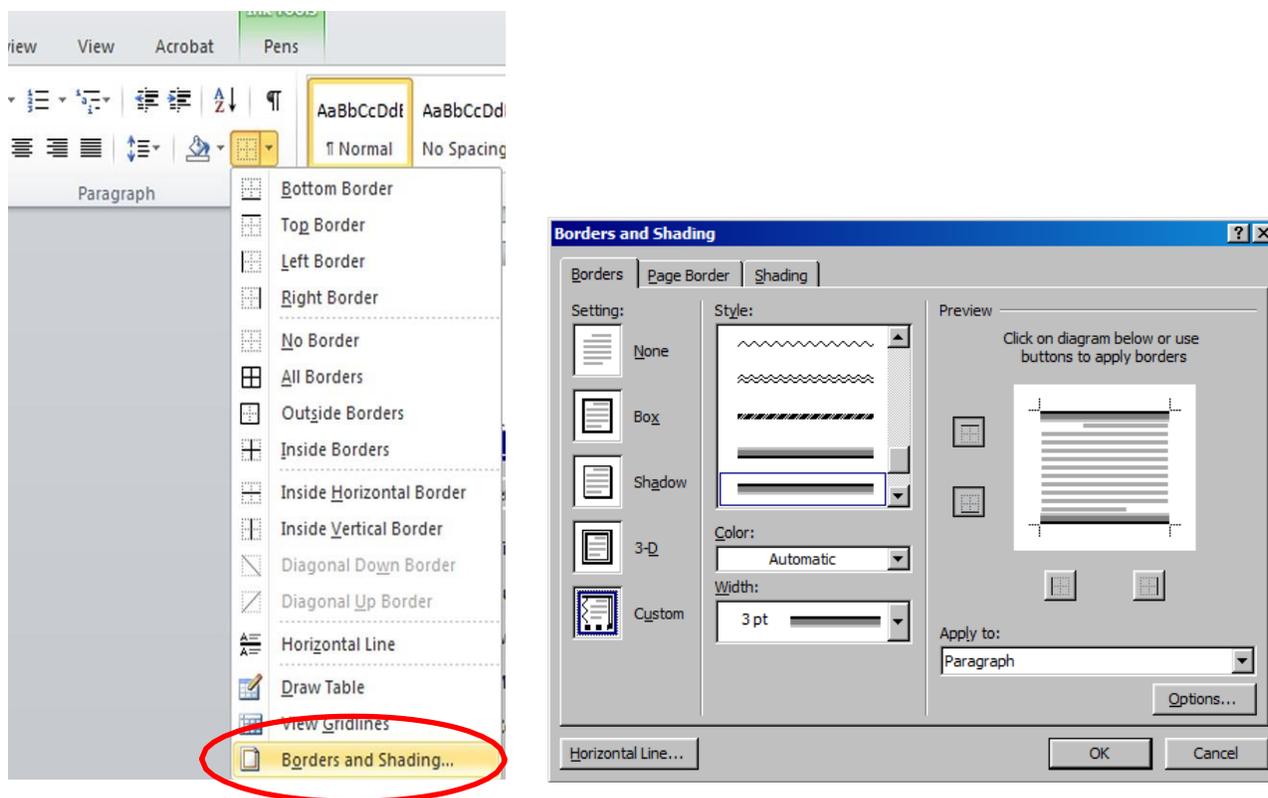
2. Set the style of a solid line you want (dashed lines will throw errors). Use shading to make it really stand out.
3. Use the **Margins** to set indents, left or right, to give the appearance of a call out text box.

Figure 19 - Alternative Text Boxes
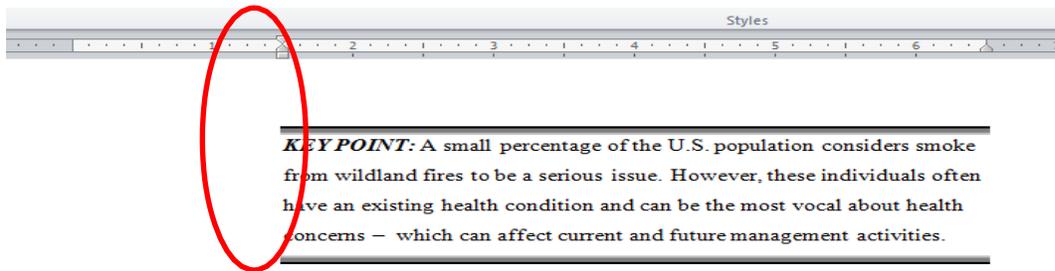
Figure 20 - Set Margins

KEY POINT: Here is text set with a fancy border above and below. You can adjust line and paragraph spacing to create greater impact, as well. This paragraph also has its left margin set to 1.5" to offset the look.

KEY POINT: The text has been set to Copperplate gothic to give even greater visual impact, with line spacing adjusted to 1.5. A fancy border adds flair.
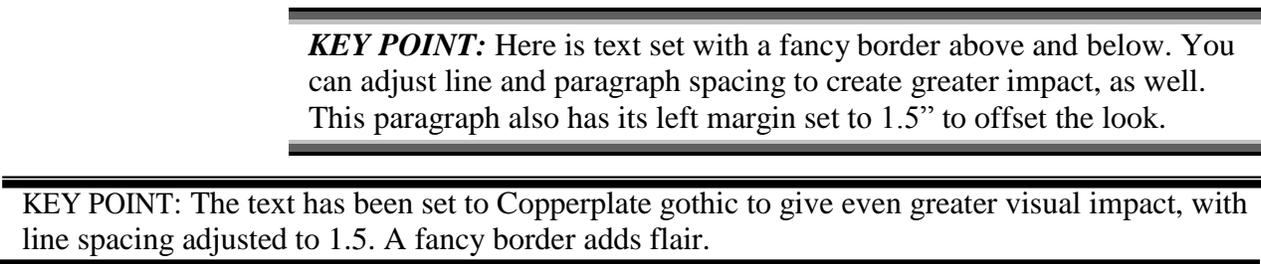
KEY POINT: this looks very much like a text box by setting the border to all four sides and giving it a colored background. The margins have been set to 1.5" left, and 1.5" right to create a centered box.

Another alternative to text boxes is to insert a picture, "Wrap" text, and add alternative text (Alt text). This will allow a screen reader to "see" the picture and communicate the content and continue on with the text.

Do not use a text box to insert a picture or graphic.

   N. Placing Text in Shapes

Using shapes can provide you with a little more creative flexibility. Because a shape does not use formatted paragraph text, and is not associated with a style, you can use the font group to customize the font, *AND* you can add Text Effects as long as your text is in a **shape**! A shape looks like a text box, but doesn't act like one. However, you will have to set the Wrap, add Alt Text, and fix the reading order when saved to PDF just like images.

   O. Insert Images and Graphics

While images and graphics will always need to be double checked for reading order after saving to PDF, they have a better chance of maintaining the format when converted if "**Wrap in-line with text**" is used.

To "**Wrap In-Line**":

1. Insert image or graphic.
2. Right click image or graphic and select "**Wrap in-line with text".**

Figure 21 - Wrap In-Line with Text
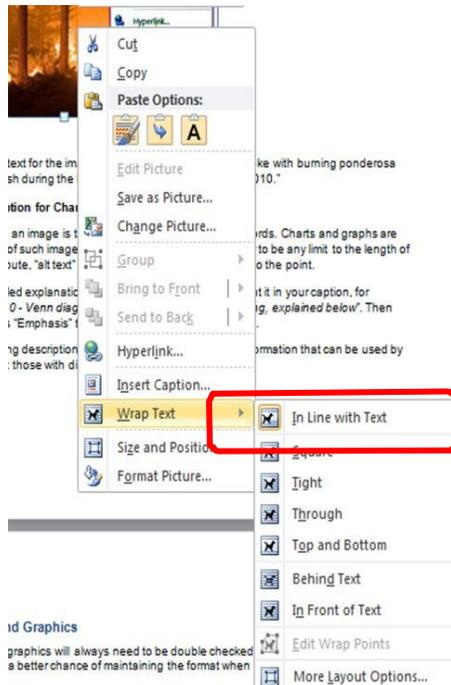
P. Alt Text

All photos, images, charts, diagrams, and other graphics which convey information **must have** an embedded alternate text label. This allows users who cannot see the image to understand what they are missing from the document. It is important that each image have *a unique description* in the alternative text label – even if the same image is used in more than one location in a document.

Without alternative text, screen readers say "picture" for each image. If you have several images in a row, the screen reader says "picture, picture, picture, picture, picture …" – which can be frustrating (not knowing what information is missing).

Any complex images, charts, tables, or other complex items should have a text-caption prior to the item which explains what ideas the item is meant to communicate. The caption should communicate the **ideas** rather than a spatial narrative.

How to insert Alt Text in all Microsoft Office 2010 applications:

1. Open any Microsoft Office document and select an image so that square anchors are visible (note the small circles at the corners of the image).
2. Right click the mouse and select **Format Picture.**
3. In the **Format Picture** window, select the **Alt Text** tab on the right, then insert the Alt text into the **Description** field. Click the **Close icon** to finalize Alt text.

Figure 22 - Insert Alt Text
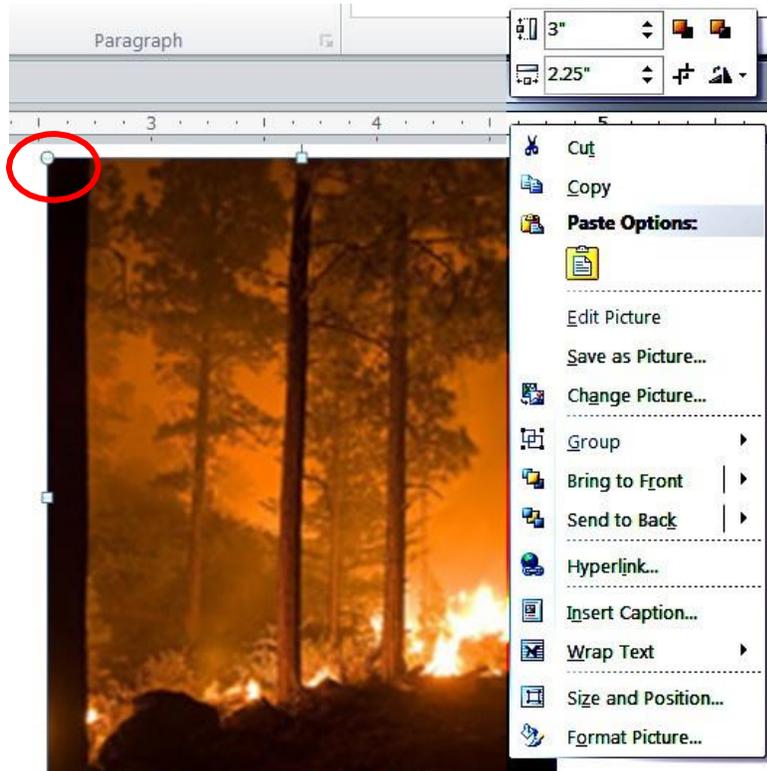
Example: The Alt text for the image above might read, "Heavy smoke with burning ponderosa pine and underbrush during the Rattlesnake Complex fire, Idaho 2010."

Use Long Description for Charts and Graphs

In some instances, an image is too complex to describe in a few words. Charts and graphs are primary examples of such images. Although there does not appear to be any limit to the length of text in an "alt" attribute, "alt text" is meant to be relatively brief and to the point.

If you have a detailed explanation for the image, you should present it in your caption, for example: "*Figure 10 - Venn diagram of student access to fire training, explained below*". Then use a style such as "Emphasis" to bring attention to the special text.

By including the long description below the graphic you will add information that can be used by all readers, not just those with disabilities.

Q. Optimize Images and Graphics

Reducing graphic file size creates smaller documents for posting on the internet. Depending on your abilities and software, there are a few ways to optimize or reduce the file size of your graphics: on the ribbon bar in MS Word, via **File>Options>Advance** menu in MS Word, or in a graphics program,

From MS Word:

1. To optimize graphics you must select the image to see the **Picture Tools > Format** tab at the top of the ribbon bar.
2. Select **Compress Pictures** in the Adjust Group on left side of ribbon bar.

You will be prompted with these options:

Figure 23 - Compress Pictures
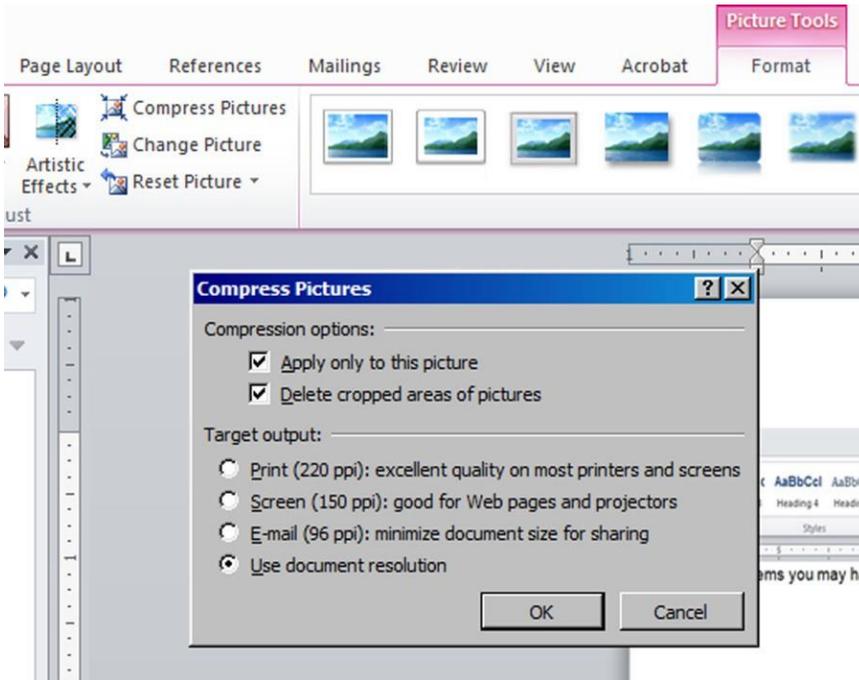
3. Check "**Apply only to this picture**", or uncheck if you want to do all graphics in your document at once.
4. Check **Delete cropped areas of pictures**. *Note you will not be able to recover any of the cropped area after this, so you should have original copies saved elsewhere.
5. While 220 ppi is selected here, we suggest Screen 150ppi for documents that will be posted to the internet. Do not use less than 220 if the document will be printed on a commercial press.

From the File tab:

1. Select **File>Options>Advanced** and scroll down **to Image Size and Quality**.
2. Set default target output to: 150 ppi. This will compress all images in the document at once.

Figure 24 - Advanced Compress Pictures Option
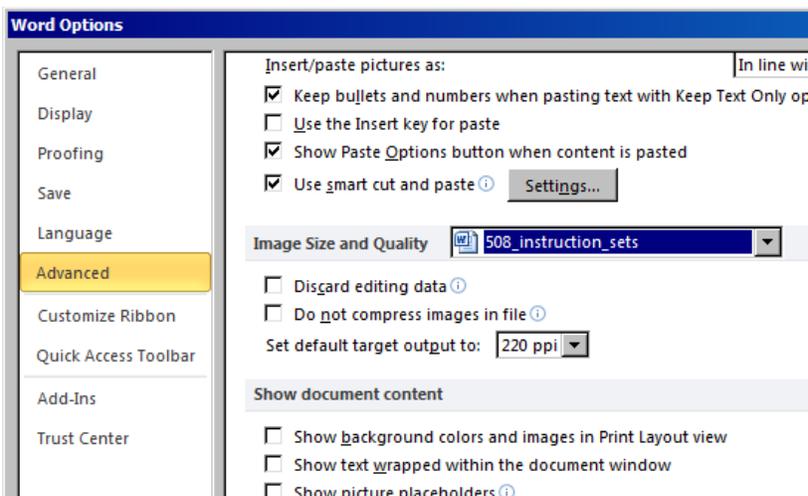
From a graphics program:

- Photos should be optimized (reduce file size) in a graphics type program, prior to including them in documents that will be posted to the internet.
- Use Only GIF, JPEG, and PNG file formats.
- Index colors at 256 or lower for GIFs.
- Turn off interlacing (it adds to the file size).
- Using transparency (transparent backgrounds) for GIFs and PNGs adds to the size of the file, so gauge the use of these against the importance of download time.
- Resolution for graphics on the web should be no more than 96 dpi and 200 dpi for print. Graphic dimensions should be no larger than 576 pixels wide by 736 pixels in height (equal to 8"X10" - using graphics that may be 72 dpi but over 1,000 pixels wide results in a file size of almost 14MB).
- When saving JPEGs:
  - o Compress file at no lower than setting 6 (high). Compressing a JPEG more than that can cause the quality of the graphic to degrade.
  - o Note that using "Progressive Scan" will add bytes to the file size.
  - o Use either "Baseline Standard" or "Optimized" under "Format Options."
- Be aware that graphic images, when converted to PDF, may not read in correct order and will still need to be manually checked in your final PDF document, and adjusted for 508 Compliancy. (See "Touchup Reading Order in a PDF file" under PDF section).

R. Grouping Images and Graphics

There is no way to group text, objects **and** photos/ images in MS Word. So, if you want to put text, arrows and/or boxes on your photos/images, you may want to group them in a graphics program or in PowerPoint and then copy those back to MS Word so the objects will stay linked with the photos/images. A graphics program will flatten the layers when saved as a GIF, PNG or JPEG (making it one graphic), but PowerPoint will group the individual elements. If you use PowerPoint, each element will still require Alt text before being grouped and saved

back to MS Word. After copying back to word, you will need to add the Alt Text and Summary **AGAIN** for the group. If you ungroup the image after placing in MS Word, you will break the Alt text format of the group and have to start over.

S. Columns

Use the Columns command in Word to create columns

- Columns in your document? **Do not** use tabs to make space between your columns. Use the "Column" commands to create column styling within the document.
- All text you type in Word 2010 is already formatted in columns — if it's only one column of text per page, it still counts as a column. Clicking Columns command button (in the Page Setup Group on the Page Layout tab) displays a menu of handy column-formatting options. Splitting your text into columns is as easy as choosing a column format from that list.
- To be more specific with the number of columns or their layout, choose the **MORE COLUMNS** command, and then use the **Columns** dialog box that appears to create and design multiple columns for your document.

Figure 25 - Columns Drop Down
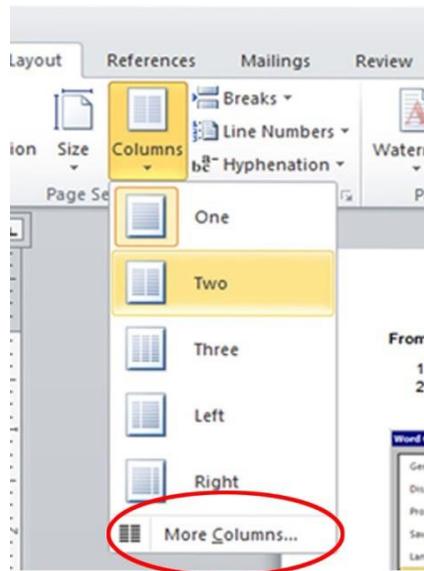
Figure 26 - More Columns command

- **Mixing column formats**
    - o Your whole document doesn't have to sport just one column format. You can split things up so that part of the document is in one column and another part is in two columns, and then maybe another part goes back to just one column. The secret is to use the Columns dialog box.
      Warning: Mixing columns creates editing difficulties and can break formatting, which can become very time consuming to fix during editing. If you have a large document, or one that will go through the editing process many times…avoid columns.
    - o When you're choosing a new column format, be sure to select the appropriate

"Apply To" drop-down list. When you choose Whole Document, the format applies to the entire document.

Figure 27 - Columns Dialog Window
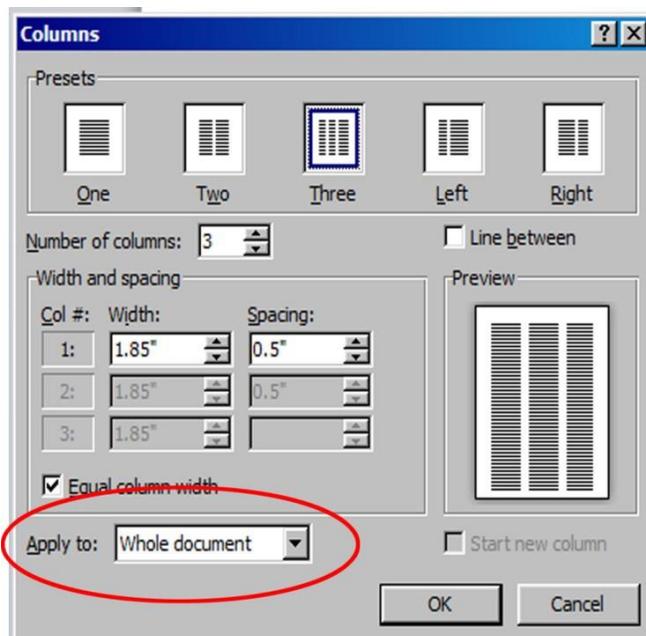
- **Going back to one column**
  - o The easiest way to undo a multi-column document is to return it to a single column. From the COLUMNS button in the Page Layout tab, choose the item One. That restores your document back to single column mode, which is how Word naturally creates documents.
  - o When a document is split into sections, or when you have multiple column formats sprinkled throughout a document, the process is a little more involved:
    - ☐ From the Page Setup area on the Page Layout tab, choose Columns→More Columns.
    - ☐ The Columns dialog box is displayed.
    - ☐ Choose One from the Presets area.
    - ☐ From the Apply To drop-down list, select Whole Document.
    - ☐ **Click OK.**
- For more directions on columns visit: http://www.dummies.com/how-to/content/how-to- insert-columns-in-a-word-2010-document.html

T. Strong Contrast with the Background Color

Individuals who have low-vision or color-blindness may have difficulty reading your documents if the text color does not strongly contrast with the background color. Over 5% of people have partial color blindness (either having difficulty distinguishing red from green, or distinguishing blue from yellow), and choosing poor color combinations can make reading a struggle.

Readers with macular degeneration, glaucoma, or other eye diseases may have great difficulty reading text which is small or which does not contrast strongly with the

background.

The problem with colored text also arises in printing out documents on a black-and-white printer. If there is not enough contrast between the foreground and background colors, the words become extremely hard to read.

- Use text and page background color combinations of significant brightness and contrast.
- Word does not provide an option for testing high-contrast. Use the Operating System display settings instead. Turn on High Contrast before starting Word. The Windows shortcut for switching to high-contrast mode is ALT+Left SHIFT+Print Screen.
- To produce multiple access/high-contrast documents, create a Word template that uses a high contrast foreground/background color combination.

To check high contrast combinations:

- Print the document in grayscale and/or turn down the color on the computer monitor
- Examine items to ensure that there is sufficiently high contrast for elements,
  e.g.:
  - o Table headers (text versus background fill).
  - o Text in foreground versus background colors or images.
  - o Text in images.
  - o Watermarks versus text in foreground (the watermark should not interfere with the foreground text, as can happen when there is too little contrast).

Figure 28 - Contrast Comparison

U. Avoiding Colored Text

"All the requirements for this project are in **red**."

What is wrong with this?
Well, for one, if you are red-green color blind, you can't tell which text is red and which is not. Worse still, if you are blind, you don't see any colors. Color alone should **never** be used alone to indicate a condition or category. Make sure that text or other notation accompanies the color in order to communicate the category or condition the color is meant to represent.

For example:

All the requirements for this project are in **red**.

> **Requirement**: documents need to follow established formats.

> **Requirement**: the file format for your paper must be in Word 2010 or newer.

> **Requirement**: the paper must be 2000 to 2500 words including a cover

page.

You should avoid the use of colored text in these circumstances. This will lead to your document being more usable and accessible for all readers.

V. Tables

Microsoft Word does not provide an easy method for creating accessible tables. If you have complex tables it is highly recommended that a description or explanation of the table contents be included in the text of the document. If at all possible, construct the table so it will read logically from left to right, top to bottom order.

W. Creating Tables

Tables that are properly inserted and labeled, including specified row and column headers: Use the **"INSERT TABLE"** command to create properly formatted tables.

Figure 29 - Insert Table
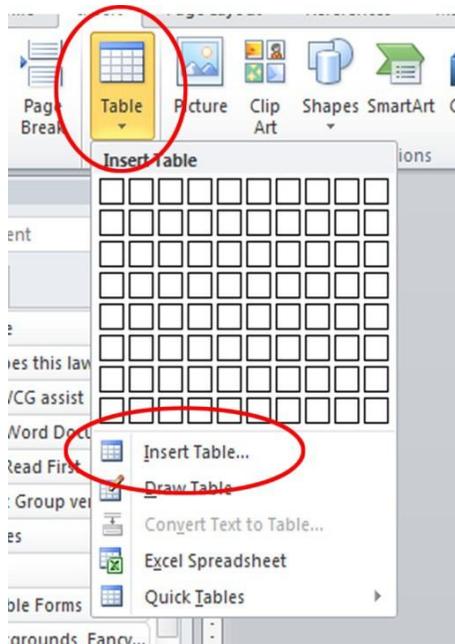
X. Tables are Only for Tabular Data

Screen readers expect a table structure to contain spreadsheet-like information (tabular data). It can become very confusing for users of screen readers if a table structure is used for page

layout and design. It is important to restrict the use of tables to the purpose of presenting tabular data.

Y. Label the Columns

When data must be displayed, it is important to provide appropriate column labels. Whenever possible, tables should be organized so that they can be read from left-to-right a single row at a time. Always include appropriate column headers to describe the contents of each column.

Tables should be described in the body text of the document, just above the table, to provide an introduction (so that blind users know what the structure is before they start hearing the information from the table)

Z. Check for Merged or Split Cells in Heading Rows

When merged cells are used, the number of columns or rows may not be uniform and screen readers will likely announce the wrong column header text with the data. Microsoft Word does not provide the support for header and data cell association with row and column spans that assistive technology needs to properly announce header cell text. The author should ensure data tables have a one-to-one association between data and header cells.

Table should be absent of merged cells. When creating a PDF, if there are merged cells it will fail the 508 compliancy test.

It's best to place captions above tables, introducing the number and title of the table.

Table 1.1 1 - Table with merged cells (X in FY 2011 and FY 2010 represents there should be no merged cells).

Key Outcome	FY 2012 Target	FY 2011		FY 2010		FY 2009 Target
		Target	Actual	Target	Actual	
$'s left	Baseline	Base Line	$4,650.00	Base Line	$8500.00	Baseline

Table 1.1 2 - Table Fixed – no merged cells.

Key Outcome	FY 2012 Target	FY 2011 Target	FY 2011 Actual	FY 2010 Target	FY 2010 Actual	FY 2009 Target
$'s left	Baseline	Base Line	$4,650.00	Base Line	$8500.00	Baseline

The following table shows how a table should look. Table number, title "Fires per Region" and then listed below: State, Fire Name, Acres Burned, and Ongoing.   The name of the Table is outside the Table in the Caption area and the table is arranged with a column representing each state and rows representing the fire name, acres burned, and if the fire is

ongoing or not. To pass the accessibility "Check" **you need to have the same number of columns as you do rows.**

Table 1.1 3 - : Fires per Region

State	Fire Name	Acres Burned	Ongoing
Idaho	Little Dino	500	yes
Texas	Big Red	1,300	no
California	Red Tree	45	yes

AA.   Making a Table Look Like it has a Merged Cell

Above your table insert a new paragraph. If you can't get your cursor before the table add a page break, type the Heading, then press the delete button to bring your table back to that page.

1. With your cursor in the new heading, click on **Borders** in the **Paragraph** menu bar.
2. Select **OUTSIDE BORDERS** from the drop-down menu.
3. Adjust your margins to the same width as your table (it will be off just a bit, but that is okay).
4. Click on **Line and Paragraph Spacing** in the **Paragraph** menu bar drop down and select remove space after paragraph, or select **Line Spacing Options** and do the next step**.**
5. Set line spacing to "0 pts" after paragraph so the paragraph will butt to the table

You now have an area that looks like a merged cell and will pass the accessibility test. If you need to make it look like you have two or more merged cells all you have to do is set a BAR tab and place it on your ruler to appear in your paragraph.

Sample: Even though the lines are not exactly lined up it appears to be a merged cell. You can drag the small circle at the bottom right of the table to line up the new box above the table or use the margins on the ruler bar.

Fires per State	Fire Name, Acres Burned, Ongoing		
Montana	Little Fire	590	yes
Idaho	Little Dino	500	yes
Texas	Big Red	1,300	no

Table 1.1 4 - Fire Information (must put caption below to work with this table style)

BB.   Other work-arounds for Merged and Split Cell "Looks"

The table below still has three columns and 4 rows, even though it looks like one cell is

split and the other is merged. It's a trick. Use the BAR tab to split a cell, or remove the BORDER of a cell to appear merged.

Table 1.1 5 - Merged Cell "look"

Header	Header	Header
Data	Data	Use BAR Tab within the cell to give split cell appearance. However, text will cross the lines.
Data	Data	
Data	To give the appearance of a merged cell, use BORDERS drop down menu and delete the middle line.	However, text will not type across the invisible cell boarder giving you a two column appearance.

CC.   Indicate the Header Rows

A must when creating an accessible data table is to designate Column and/or Row headers. Identify the header row:

1. Select just the top row of your table, right click, and choose **Table Properties**.
2. Select the **Row** tab.
3. Check the box labeled "**Repeat as header row at the top of each page**".

Note: Alternate method is to select first row of table, select the table, go to **Layout** tab on menu bar and click on "**Repeat as Header Rows**" button.

DD.   Restrict the Table Cells to a Single Page

To do this:

1. Select the entire table and right click, and choose **Table Properties**.
2. Then, select the **Row** tab.
3. Finally, uncheck the box labeled "**Allow rows to break across pages.**" Be sure there are no marks inside the box.

EE.   Attaching Alternative Text to a Table in MS Word

As with most objects in MS Word, you need to add alternate text to a table. MS Word allows you to add "title" text and "description" text. However, when converting the file to a PDF the description text is not always transferred. Best practice is to enter both, but double check the summary field in PDF.

1. Place the cursor in the table, left click to highlight.
2. Right click and select **"Table Properties**…" from the pop-up menu.

3. The table properties dialog box has 5 tabs – Table, Row, Column, Cell, Alt Text – click the **"Alt Text"** tab. Enter the table summary in the "description" field and click OK.

Figure 30 - Insert Alt Text to Table
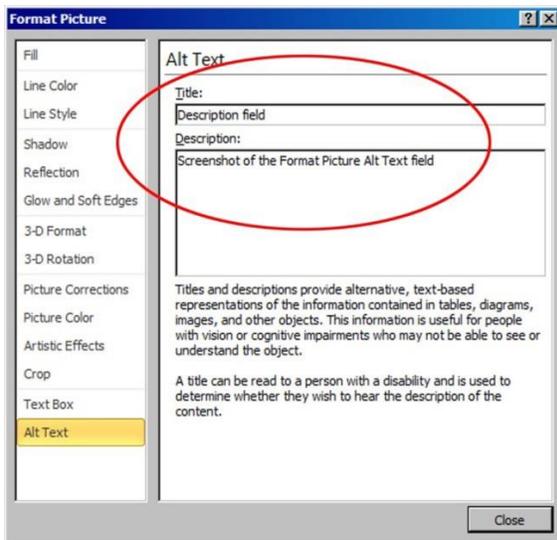
See the Microsoft video on adding alternative text to tables and other objects in MS Word 2010 on the Microsoft website at: http://office.microsoft.com/en-us/powerpoint-help/add-alternative- text-to-a-shape-picture-chart-table-smartart-graphic-or-other-object-HA010354748.aspx?CTT=1#BM14

Things You Should Not Do

- Do not create your table using the **Draw Table** tool, which is available only with the Table tools on the Insert ribbon.
- Do not create page layouts with tables.
- Do not merge cells, and do not split cells.
- Do not control spacing in your table with blank rows or columns. Adjust line spacing instead.

FF.   Providing Unique Hyperlink Labels

One of the features of screen readers is that they can allow the user to hear just the hyperlinks on a page. This aids in navigation, since the user does not have to hear the entire page in order to locate the links.

There are *many* varying opinions on how to display them. Some URL's, also known as a web address, are *very* long. These can quickly clutter up a document with ugly strings of letters, backslashes, dots and other characters. So what's the answer? First, always make sure the URL is identified. Don't just type "Click Here", with the link hidden.

The problem with typing just the words like "Go to NWCG" or "Click Here," is that assistive technology won't identify the actual web address, and if the document is printed, it won't

identify the web address either. So what we suggest is:

- For a document with just one or two web addresses, go ahead and type the whole address.
- For documents with more than two web addresses or just really ugly, long strings, you can type the landing page web address, such as www.nwcg.gov, and in the hyperlink context box put in the full address that will show in Alt Text as well. At the bottom, in the footer, or at the back of the document you can place the complete string for printing purposes. This keeps your document much cleaner, it is 508 compliant, and the actual address is printable.

To create a hyperlink:

1. Type the URL. It automatically creates the link, but you'll want to adjust the text.
2. Click on the hyperlink text and go to the **Insert Tab** on the ribbon bar and under **Links** click on the **Hyperlink** button.
3. The Text to display box displays what is going to be seen on the page.
4. In the **address box** make sure it has the full address with the http:// included, which is the complete address that you want the link to take people to.
5. On the top right of this window is a button called **Screen Tip**. Click on it.
6. This is the Alt Text that the assistive technology will read and should say something like: "This link goes to …. at:" and place the complete web address here as well. You can copy and paste from the address window. Click OK to leave both of these windows.

You will now see the URL in blue with an underline indicating it is a link. If you hover over the link, it will show the Screen Tip text with the complete address. Then remember to place the full URL address in the footer or at the back of your document for a printable version, if necessary.

The following table provides some poor examples contrasted with some good examples of proper hyperlink links.

Table 1.1 6 - Hyperlinks

Poor Examples	Problem	Good Example
Google search engine, click here *Ask* search engine, click here *Dog Pile* search engine, click here	The link titles are not unique.	Search Engines to use: ***Google.com Ask.com*** ***DogPile.com***

NWCG provides consistent and uniform guidance to the National Wildfire Coordinating Group (NWCG) organization… More information on the fire website at NW CG.	When materials are printed on a photocopier, the URL cannot be followed if its full string is not visible.	NWCG provides consistent and uniform guidance to the National Wildfire Coordinating Group (NWCG) organization… More information is available at: http://www.nwcg.gov.
Link 1	Link titles are no descriptive of the underlying content.	NWCG Mission Statement at: http://www.nwcg.gov/nwcg_admin/organize.htm#Mission

GG.   Forms

According to Section 508 Guidelines, when electronic forms are designed to be completed online, 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.

Form layouts are typically created in Word first, then often saved as a PDF but, to be compliant, they must have tooltips associated with a field. Tooltips can be created within the originating document, but can also be added to the completed PDF.

Note; MS Word document form fields **will not** transfer to PDF. Form fields must be set in Adobe Acrobat for fillable PDF forms.

From MS Word, first make sure the **Developer Options** is turned on by selecting **File>Options>Customize the Ribbon**. In the right hand column drop-down titled "**Main Tabs**" check the box next to **Developer**. Click OK.

1. Open the form in Word as you normally would.
2. Highlight the field you want to use as a form field.
3. Select the **Rich Text Content Control** button. A properly tagged field will be added to the document. Repeat the process for each remaining field.

From Adobe Acrobat, first save the Word document as a PDF.

1. Open the PDF in Adobe Acrobat.
2. Choose **Tools>Forms** and "**Create."**
3. Choose "**Create from Existing Document**."
4. Select each fillable box and right click **Properties** and add **Title** and **Tooltip**. The Tooltip should match the Title.
5. See PDF Checking and Problem Solving>Forms for how to fine tune your Acrobat PDF Fillable Form.

HH.   Saving as a Template and Create Editable Regions

Templates are a huge time saver, especially if you have repetitious documents that need to maintain a standard look regardless of who prepares them. There's no need to reinvent the wheel every time.

1. Save the document as a template first.
2. Go to the **File Tab** and **Save As**, choose **Word Template** in the drop down and select the folder location where you want to store your documents. Think about creating a Template folder. We also suggest adding the word Template to the end of your document name and keep an original separate, especially if you will be adding a password to protect the template document from being edited. If you lose the password, you will not be able to open the document. We suggest you keep your original unlocked.
3. If you think some people are still working in older versions of Word you can save it as a Word 97-2003 Template.

That is how to save a basic template. However, you may want to add content controls or restrict editing of certain areas. All these can be found on the Developer Tab on the Ribbon bar.

1. Go to the **Developer Tab** on the ribbon bar. If you don't see the **Developer Tab**, go to the **File Tab**, select **Options**, and under **Customize Ribbon** check the developer box on the right panel, and click **OK**.
2. The **Controls Group** has several options. The colored double Aa is Rich Text. The plain double Aa is of course Plain Text. Next to that is the Picture Content control. There's a Building Block, a Combo Box, a Dropdown Menu, a Date Picker, a Checkbox, and a group of legacy tools if you are editing an older document that used Controls. There is also a Design Mode, a Properties, and Group option.
3. Select the text or images you want to protect or you can add a text control box.
4. Now on the **Developer Tab** in the **Controls Group** select the colored double Aa to add a Rich Text Control. This places a text box on your document – these don't appear to cause 508 errors. If you want to add instructions on how to fill out the content of the text box, select the Text Box and in the **Control Group** on the ribbon bar select **Design Mode**. You should now see new chevron boxes on each side of the text inside the textbox. Highlight the current text and replace it with whatever you want to say. Now click the design mode button to unhighlight.
5. If you want the placeholder text to disappear when the user types, click inside the Text Box, and on the ribbon bar click on the **Properties** button in the **Control Group** and select "**Remove content control when contents are edited**." And click **OK**.
6. To restrict editing to only the areas you want users to be able to change, go to the **Developer Tab** on the ribbon bar, and under the **Protect Group** select **Restrict Editing**, which opens a new panel on the right side of the window. By holding our control key down, we can select individual areas from anywhere on the page.
7. On the right side of our screen Under **Step 2** in the restrict formatting panel put a check in the "**Allow only this type of editing in the document**," then choose "**No changes (read only)**" in the drop down. Now, under the exceptions, put a check in the box next to "**Everyone**." In **step 3 say "yes**, start enforcing protection" and add a password.
8. If you click anywhere on the screen to unselect our items, you'll see the editable areas

are highlighted in yellow. Editable regions can be anything on the page: headings, body text, tables, images, etcetera.

9. Go to **File** and **Save As**, make sure it is a **Word Template** format, and make sure you add the word "**template**" to the end of the file name.

Tada, you now have a document you can share with others that you can be confident will only be edited in the areas you have specified. Remember though, if you are sending PDFs that you need assistance with making 508 compliant you must provide us with the password. We can't do anything with locked documents.

Chapter 4 - Is Your Document Compliant?

MS Word has a feature that checks to see if your document has been formatted properly for 508 compliance. However, it's a good idea to use the **MS Word 508 Checklist** at the end of this chapter to double check your document against the list, and fix those items you may have missed before running the following checks.

    A. Check Your Document For Accessibility:

       1. Click on **File**.
       2. In the middle column under **"Information about Procedures & Guidelines"** click on **Check for Issues** Icon
       3. Click on **"Check for Accessibility."**
       4. A screen will appear on the right side of the screen.
       5. This will list your Inspection results for the document you have created.

Troubleshooting Tip: If you receive the error message: "unable to run the accessibility checker cannot check the current file type for accessibility issues" you may need open the document in a more recent version of Word and save the document before running the Accessibility Checker.

If there are errors click on each error and see what you need to do to correct the error.
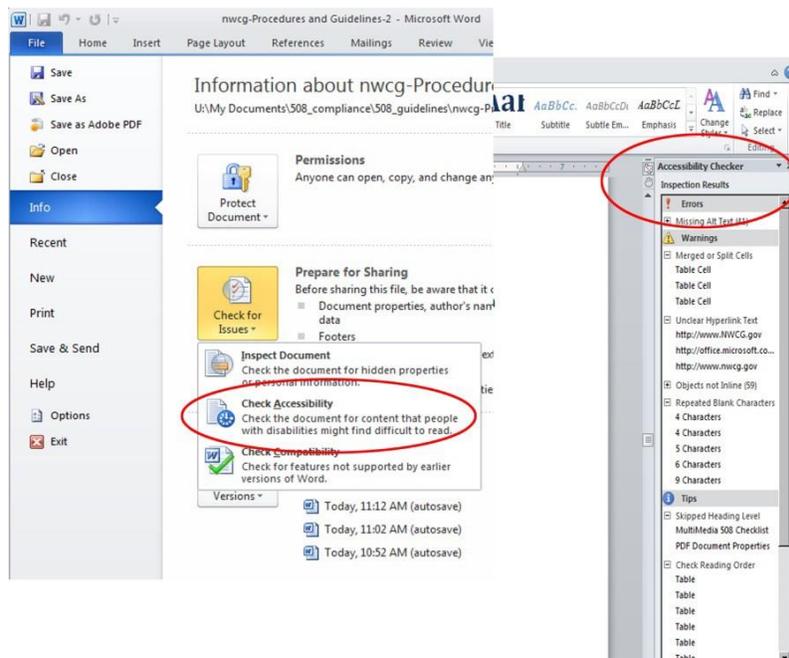
    B. Additional Information

The following link offers full directions on making your MS Word compliant: Creating Accessible documents using MS Word http://office.microsoft.com/en-us/word-help/creating-accessible-word- documents-HA101999993.aspx

C. MS Word 508 Checklist

ID	Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.1	Does the document file name not contain spaces and/or special characters?			
1.2	Is the document file name concise, generally limited to 20-30 characters, and does it make the contents of the file clear?			
1.3	Have the Document Properties for Title, Author, Subject (AKA Description), Keywords, Language, and Copyright Status been applied?			
1.4	Does the document utilize recommended fonts (i.e., Times New Roman, Verdana, Arial, Tahoma, Helvetica, or Calibri)?			
1.5	Have track changes been accepted or rejected and turned off?			
1.6	Have comments been removed and formatting marks been turned off?			
1.7	Is the document free of background images or watermarks?			
1.8	Do all images, grouped images, and non-text elements that convey information have meaningful alternative-text descriptions?			
1.9	Do complex images (i.e., charts and graphs) have descriptive text near the image (perhaps as a caption)?			
1.10	Are all URLs spelled out and linked to correct Web destinations?			
1.11	Are e-mail links accessible?			
1.12	Has a separate accessible version of the document been provided when there is no other way to make the content accessible?			

ID	Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.13	If there are tables, are blank cells avoided?			
1.14	Is all of the text easy to read in comparison to the background of the document (i.e., has a color-contrast ratio of 4.5:1)?			
1.15	Has the document been reviewed in Print Preview for a final visual check?			

	2.0. General Layout and Formatting Requirements	Yes (Pass)	No (Fail)	N/A
2.1	Has the document been formatted using Style elements (Heading 1, Heading 2) and/or Outline in a hierarchical manner (i.e. Heading 1 to Heading 2 to Body Text)?			
2.3	Are page numbering codes used as opposed to manually typed page numbers?			
2.4	If footnotes are present, have they been created through Word Footnote linking?			
2.5	If color is used to emphasize the importance of selected text, is there an alternate method also used?			
2.6	Is the list style being used as opposed to manually typed characters (e.g. Hyphens, numbers, or graphics)?			
2.7	Is the document free of text boxes?			
2.8	If the document contains a Table of Contents (TOC), was it created using the TOC field (e.g., created using the TOC Command in MS Word)?			

2.0. General Layout and Formatting Requirements	Yes (Pass)	No (Fail)	N/A
2.9 Does the document avoid using underscores (using the space bar or tab feature to create a line) to create lines?			

ID	3.0. Document Image Requirements	Yes (Pass)	No (Fail)	N/A
3.1	Are images set to "Wrap in line" with text flush left?			
3.2	Are multiple associated images on the same page (e.g., boxes in an organizational chart) grouped as one object?			
3.3	Have all multilayered objects been flattened into one image and does that image use one alternative text description for the image?			
3.4	Do images/graphics appear crisp and legible?			

ID	4.0. Document Table Requirements	Yes (Pass)	No (Fail)	N/A
4.1	If the document has a tabular appearance, is that tabular structure made using the table option (as opposed to manual tabs and/or spaces)?			
4.2	Do all tables have a logical reading order from left to right, top to bottom?			
4.3	Do data tables have the entire first row designated as a 'Header Row' in table properties?			
4.4	Is the table free of Merged Cells?			
4.5	Are all tables described and labeled (where appropriate			
4.6	In table properties, is "Allow row to break across pages" unchecked?			

Chapter 5 – PDF File Creation in MS Word

A. Converting your documents to accessible PDF files

You should have Adobe Acrobat X or XI Pro software installed to continue on with making your 508 compliant PDF file.

Now that the document has a structure, alternative text for images, formatted columns, and correctly styled tables, it is ready to be converted to the PDF file format. These general steps will help get your document to an accessible, 508 Compliant PDF.

1. Click on Review Tab on the menu bar.
2. Turn Track Changes Off: If Track Changes is on, click the Track Changes Icon under the Review tab. It should not be highlighted.
3. Under Show Markup, turn off comments: Note: Always perform this step. Comments may be hidden.
4. Under Show markup: turn off formatting.
5. Go to File>Options>Display and turn off all formatting marks.

B. Convert your document to a PDF file

There are a few ways to save a PDF. Each handles the file a little differently and while one may resolve an error, the other two methods may make it worse. If that happens then try the alternate method.

Method One:

1. With the document open in Word select the Acrobat Tab on the ribbon bar.
2. Click the Create PDF Icon.
3. You have now created a PDF file.
4. The PDF will automatically open and you will now be working in your opened PDF file.

Figure 31 - Acrobat and Create PDF icons on the MS Word toolbar
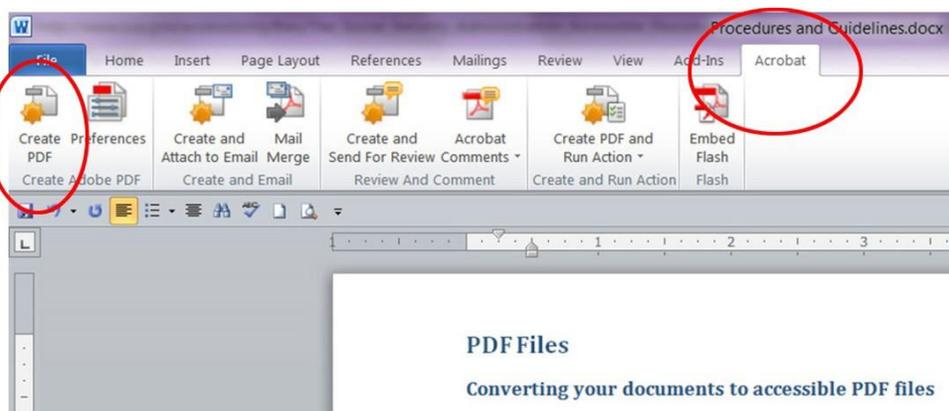
Method Two:

1. Go to File and select "Save As Adobe PDF".
2. Save to a folder and open your PDF to run the compliancy test.

Method Three:

1. Go to File and select Save As.
2. In the "Save As Type" Choose Adobe PDF.
3. Save to a folder and open your PDF to run the compliancy test.

In ALL cases, make sure the Protect Document is **UNCHECKED**. We cannot help you fix your PDF if it is protected.

Go to **"PDF Checking and Problem Solving"** and learn how to check your PDF for 508 Compliancy, and to correct any errors your document may have.

Chapter 6 - Excel Document Creation

    A. Set Document Language

At this time, it is not possible to indicate the natural language of selected cells within an Excel 2010 workbook. In order for assistive technologies (e.g., screen readers) to be able to present your document accurately, it is important to indicate the language of the document.

    B. Change the default language for a workbook:

      1. Go to menu item: **File.**
      2. Select **Options** from the list in the left window pane.
      3. Select **Language** from the list in the left of the **Options** dialog.
      4. Under **Chose Editing Languages**, select the editing language you want to use.
          Note: to add an editing language, select the language from the drop down list labeled **[Add additional editing languages].**
      5. Select **Set as Default.**

Close all Office 2010 programs and open them again for the changes to take effect.

    C. Provide Text Alternatives for Images and Graphical Objects

When using images or other graphical objects, such as charts and graphs, it is important to ensure that the information you intend to convey by the image is also conveyed to people who cannot see the image. This can be accomplished by adding concise alternative text to each image. If an image is too complicated to concisely describe in the alternative text alone (artwork, flowcharts, etc.), provide a short text alternative and a longer description as well.

    D. Tips for Writing Alternative Text

- Try to answer the question "what information is the image conveying?"

- Alternative text should be fairly short, usually a sentence or less and rarely more than two sentences.

- If more description is required (e.g., for a chart or graph), provide a short description in the alternative text (e.g., a summary of the trend) and more detail in the long description, see below.

    E. Tips for Writing Longer Descriptions

- Long descriptions should be used when text alternatives (see above) are insufficient to answer the question "what information is the image conveying?"
- In some situations, the information being conveyed will be how an image looks (e.g., an artwork, architectural detail, etc.). In these cases, try to describe the image without

making too many of your own assumptions.
- One approach is to imagine you are describing the image to a person over the phone.
- Ensure that you still provide concise alternative text to help readers decide if they are interested in the longer description.

F. Add Alternative Text to Images and Graphical Objects:

1. Right-click* the object.
2. Select **Format Picture…**
3. Select the **Alt Text** option from the list.
4. Fill in the **Title**. If more description is required (e.g., for a chart or graph), provide a short description in the **Title** (e.g., a summary of the trend) and more detail in the **Description**.

G. Format Your Cells

As you begin adding content, your spreadsheet will require structuring to bring meaning to the data, make it easier to navigate, and help assistive technologies read it accurately. One of the easiest ways to do this is to ensure that you properly format the cells.

H. Named Styles

You should make use of the named styles that are included with the office application (e.g., "Heading", "Result", etc.) before creating your own styles or using the character formatting tools directly. Named styles help your readers understand why something was formatted in a given way, which is especially helpful when there are multiple reasons for the same formatting (e.g., it is common to use italics for emphasis, Latin terms and species names).

For more information on formatting using named styles, see Technique 9.

Note: While office application suites support headings in much the same way, the named styles often differ.

Formatting header and result cells brings order to the spreadsheet and makes it easier for users to navigate effectively. For example, you can format header rows and columns using "Heading" styles to apply bolded, enlarged, and italicized text (among other characteristics). You may also want to format cells containing results of calculations to appear bold and underlined to help distinguish them from the rest of your data.

I. Format a cell with default named styles:

1. Highlight the cells that you want to format.
    Note: to apply a style to an entire row or column, select the row or column indicator and follow the next steps.
2. Go to menu item: Home.

3. In the Styles section, select the Cell Styles icon.
4. Select the desired formatting style from the drop-down menu.

Note: To modify a style, right-click* the desired formatting style from the drop-down menu and select **Modify**. Changes made to the style will affect all instances of the style within your workbook.

J. Other Cell Characteristics

Ensure your cells are formatted to properly represent your data, including number and text attributes.

To format cell characteristics:

1. Highlight the cells that you want to format.
2. Go to menu item: **Home.**
3. In the relevant sections (e.g. **Numbers**, **Font**, etc.) make your adjustments.
   Note: When formatting your spreadsheet, it is best to avoid merging cells. At times, it may seem easier to present your data by merging cells, but this can make it more difficult for users of assistive technologies and people navigating your spreadsheet using the keyboard.

K. Define Cell Names

Naming the different data ranges within your spreadsheet makes it easier to navigate through the document and find specific information. By associating a meaningful name to a data range, you will be enhancing the readability of your document. These named ranges can be referenced in multiple locations of your document and within calculations and equations.

To define a name:

1. Highlight the cells you would like to name.
2. Go to menu item: **Formulas.**
3. In the **Defined Names** section, select the **Define Name** button.
4. In the **Name** text box, enter the name for the data range.
5. In the **Scope** drop-down list, select scope within which the name can be referenced.
6. Select **OK.**

L. Create Accessible Charts

Charts can be used to make data more understandable for some audiences. However, it is important to ensure that your chart is as accessible as possible to all members of your audience. All basic accessibility considerations that are applied to the rest of your document must also be applied to your charts and the elements within your charts. For example, use shape and color, rather than color alone, to convey information. As well, some further steps should be taken to ensure that the contents are your chart are appropriate labeled to give users reference points that will help them to correctly interpret the information.

To create a chart:
1. Select the data that you want to include in the chart.
2. Go to menu item: Insert.
3. In the Charts section, select the icon of the type of chart you would like to insert.
4. Select a Chart Type from the Chart Gallery in the drop-down menu.

To add titles and labels:

1. In the **Chart Tools** menu section, go to menu item: **Layout.**
2. In the **Labels** section, select the type of title or label you would like to define (e.g., **Chart Title, Axis Titles, Data Labels**).
    Note: It is a good idea to use as many of the titles and labels available in this section as possible.

To apply a predefined Chart Layout:
1. In the Chart Tools menu section, go to menu item: Design.
2. In the **Chart Layouts** section, select a **Quick Layout** from the scrolling **Chart Layouts** gallery.

To change to a different predefined Chart Type:
1. In the **Chart Tools** menu section, go to menu item: **Design.**
2. In the **Type** section, select the **Change Chart Type** icon.
3. In the **Change Chart Type** dialog, select a chart type from the left pane.
4. Select a **Chart Design** from the right pane.
5. Select **OK.**

To apply alternative text to a chart:
1. Right-click* the chart.
    Note: Make sure you are right-clicking the whole chart, not just an element within the chart. It is possible to add descriptions to the many elements that make up a chart, but this is not recommended.
2. In the **Format Chart Area** dialog, select **Alt Text.**
3. Enter a **Title** in the **Title** box.
4. Enter a longer description of the chart contents in the **Description** box.
5. Select **Close.**

M. Other Chart Considerations

- When creating line charts, use the formatting options to create different types of dotted lines to facilitate legibility for users who are color blind.
- Change the default colors to a color safe or gray-scale palette.
- Use the formatting options to change predefined colors, ensuring that they align

with sufficient contrast requirements.

N. Use Other Content Structuring Features

While cell formatting is the most common method of structuring documents, other content structuring features should be used where appropriate:

1. Document Title.
2. Insert a descriptive and meaningful title
3. To change the title of the current document.
    a. Go to menu item: **File.**
    b. Select **Info** from the list in the left window pane.
    c. In the right window pane, select the **Title** text box.
    d. Enter the **Title.**
        Note: The **Title** defined in the properties is different than the file name. It is also unrelated to the template name, discussed above.

O. Avoid "Floating" Elements

Avoid "floating" elements (other than charts) such as floating images, objects, tables or text boxes. Similarly, avoid placing drawing objects directly into the document (e.g., as borders, to create a diagram). Instead, create borders with page layout tools and insert complete graphical objects.

P. Format of Text

When formatting text, especially when the text is likely to be printed, try to:

- Use font sizes between 12 and 18 points for cell contents.

- Use fonts of normal weight, rather than bold or light weight fonts. If you do choose to use bold fonts for emphasis, use them sparingly.

- Use standard fonts with clear spacing and easily recognized upper and lower case characters. Sans serif fonts (e.g., Arial, Verdana) may sometimes be easier to read than serif fonts (e.g., Times New Roman, Garamond).

- Avoid large amounts of text set all in caps, italic or underlined.

- Use normal or expanded character spacing, rather than condensed spacing.

- Avoid animated or scrolling text.

Q. To Change the Text Size for a Default Named Style:

1. Go to menu item: **Home.**
2. In the Styles section, select the Cell Styles icon.
3. Select the style to modify from the list.
4. Right-click* and select: **Modify…**

5. In the **Style** dialog, select the **Format** button.
6. In the **Format Cells** dialog, select the **Font** tab.
7. In the **Size** text box, type the desired size or select it from the list.
   Select **OK.**

R. Use Sufficient Contrast

The visual presentation of text and images of text should have a contrast ration of at least 4.5:1. To help you determine the contrast, here are some examples on a white background:

- Very good contrast (Foreground=black, Background=white, Ratio=21:1)

- Acceptable contrast (Foreground=#767676, Background=white, Ratio=4.54:1)

- Unacceptable contrast (Foreground=#AAAAAA, Background=white,

Ratio=2.32:1) Also, always use a single solid color for a text background rather than a

pattern.

S. Avoid Using Color Alone

Color should not be used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. In order to spot where color might be the only visual means of conveying information, you can create a screenshot of the document and then view it with online gray-scale converting tools.

T. Navigational Instructions

Provide a general description of the spreadsheet contents and instructions on how to navigate the data effectively. The best way to do this is to make a cell at the beginning of the data (e.g., A1) with this information. It will be the first cell accessed by assistive technologies. If you are using this cell for a label or data, you can attach a comment note to the cell containing navigational instructions.

U. Accessibility Checker

1. Go to menu item: **File.**
2. Select Info in the left window pane.
3. Under Prepare for Sharing, an alert will appear if a potential accessibility issue has been detected.
4. To view and repair the issues, select Check for Issues and then Check Accessibility.
5. An Accessibility Checker task pane will open, showing the inspection results.
6. Select a specific issue to see Additional Information.
7. Follow the steps provided to fix or revise the content.

   V. To Evaluate PDF Accessibility in Adobe Acrobat Professional:

      1. Go to menu item: **Advanced > Accessibility > Full Check…**
      2. In the **Full Check** dialog, select all the checking options.
      3. Select the **Start Checking** button.

More information can be found on the Microsoft Help in creating Accessible Excel Workbooks website: http://office.microsoft.com/en-us/excel-help/creating-accessible-excel-workbooks-HA102013545.aspx?CTT=5&origin=HA102671874

**Note: Remember to use the 508 compliancy checklist at the end of this document to be certain you have followed all steps necessary to make your PDF document compliant.

W. Excel 508 Checklist

ID	1.0.Master Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.1	Does the document file name not contain spaces and/or special characters?			
1.2	Is the document file name concise, generally limited to 20-30 characters, and does it make the contents of the file clear?			
1.3	Have the Document Properties for Title, Author, Subject (AKA Description), Keywords, Language, and Copyright Status been applied per HHS guidance?			
1.4	Does the document utilize recommended fonts (i.e., Times New Roman, Verdana, Arial, Tahoma, Helvetica, or Calibri)?			
1.5	Have track changes been accepted or rejected and turned off?			
1.6	Have comments been removed and formatting marks been turned off?			
1.7	Is the document free of background images or watermarks?			
1.8	Do all images, grouped images, and non-text elements that convey information have meaningful alternative-text descriptions?			
1.9	Do complex images (i.e., charts and graphs) have descriptive text near the image (perhaps as a caption)?			
1.10	Are all URLs linked to correct Web destinations?			
1.11	Are e-mail links accessible?			
1.12	Has a separate accessible version of the document been provided when there is no other way to make the content accessible?			
1.13	If there are tables, are blank cells avoided?			

ID	1.0.Master Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.14	Is all of the text easy to read in comparison to the background of the document (i.e., has a color-contrast ratio of 4.5:1)?			
1.15	Has the document been reviewed in Print Preview for a final visual check?			

ID	2.0. General Layout and Formatting Requirements	Yes (Pass)	No (Fail)	N/A
2.1	Is the table free of merged cells? (If not, but the final format will be PDF or HTML, then merged cells are okay).			
2.3	Do the active worksheets have clear and concise names that allow users (and assistive technology) to identify the table's source and content?			
2.4	Is each table prefixed (titled) with the table name and table number?			
2.5	Does the table header repeat at the top of the table as it goes from one page to another?			
2.6	If color is used to emphasize important text, is there is an alternate, compliant method used as well?			
2.7	Have all extraneous comments have been removed?			
2.8	Is the document free of text boxes			

ID	3.0. Charts/Image Requirements	Yes (Pass)	No (Fail)	N/A
3.1	Are associated images on the same page, such as boxes in an organizational chart, grouped as one object?			
3.2	Have all multilayered objects been flattened into one image?			
3.3	Do all non-text elements that convey information - including images - have descriptive captions (alternative text does not currently work when a PDF is made from Excel)?			
3.4	Do all charts have titles, legends, and axis labels?			

Chapter 7 - Multimedia Creation

If you create Podcasts and other sound files, Videos and multimedia presentations, Software to play videos, audio, and multimedia for your website, visit the **Howto.gov** website for step-by-step directions on making these files accessible.

**Note: Remember to follow the 508 compliancy checklist at the end of this document to be certain you have followed all steps necessary to make you PDF document compliant.

    A. Multimedia 508 Checklist

ID	1.0.Master Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.1	Does the document file name not contain spaces and/or special characters?			
1.2	Is the document file name concise, generally limited to 20-30 characters, and makes the contents of the file clear in the context in which it is presented?			
1.3	Does the document utilize recommended fonts (i.e., Times New Roman, Verdana, Arial, Tahoma, Helvetica, or Calibri?			
1.4	Does the document refrain from using flashing/flickering text and/or animated text?			
1.5	Are all URLs linked to correct Web destinations?			
1.6	Are e-mail links accessible?			
1.7	Has a separate accessible version of the multimedia file been provided when there is no other way to make the content accessible?			

ID	2.0. Secondary Sensory-Channel Requirements	Yes (Pass)	No (Fail)	N/A
2.1	If a video—Does the video or animation contain synchronized captioning?			
2.2	If an animation—Does the animation have a text equivalent?			
2.3	If a sound file—Does the sound file have a matching transcript file?			

ID	3.0. Functional Control Requirements	Yes (Pass)	No (Fail)	N/A
3.1	Does the file have the minimum required media controls of video resizing, volume control, play/stop buttons, and the ability to turn captions on and off?			
3.2	Are all media controls keyboard accessible?			
3.3	Is the media embedded in a way that allows the user to use keyboard controls to move in and out of the video in relation to surrounding content?			

Chapter 8 - PowerPoint Creation, Preparing Accessible Presentations

A. Create a New Presentation:
1. Click on **Home**.
2. **New slide**.
3. Select appropriate layout.

Figure 32 - Insert New Slide
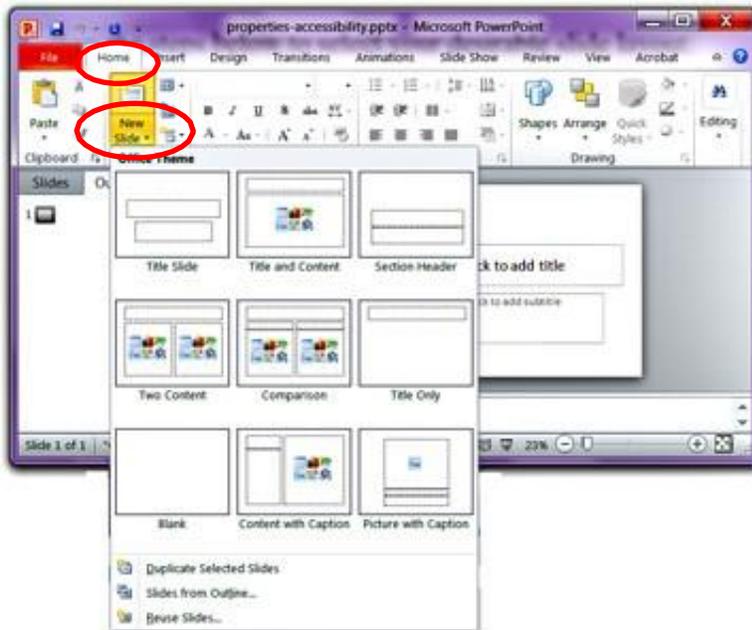
Figure 33 - Create a New Presentation screen

B. Properties

Populating certain document properties (Author, Title, Subject, and Keywords) and setting the language are required to make an electronic file 508 compliant.

To specify properties:
1. Click on File in the upper left corner.
2. New field will appear on the right.
3. Choose "Properties."
4. Choose Advanced Properties and then the Summary screen will appear.

Figure 34 - Document Properties Window
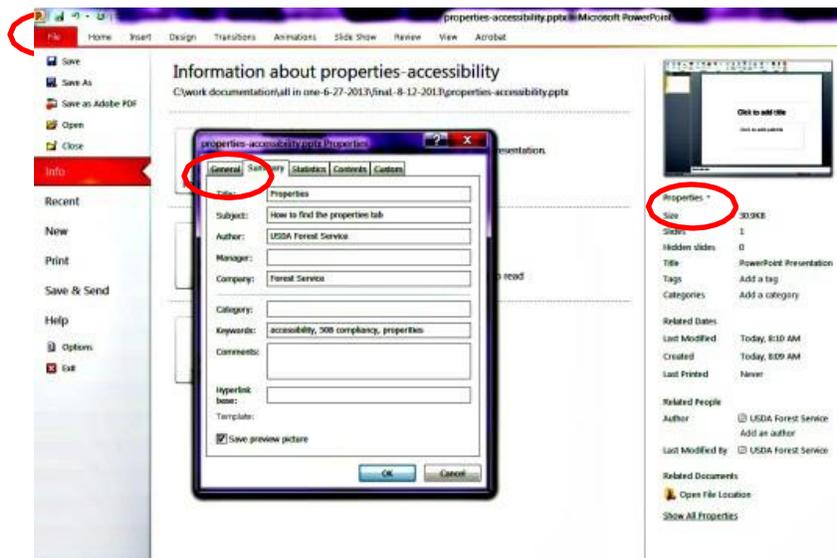
Fill out: the title of the document, subject, and author (do not use your name; rather, use Forest Service), company and keywords. The other fields are optional.

C. Set Document Language

In order for assistive technologies (e.g., screen readers) to be able to present your document accurately, it **is** important to indicate the natural language of the document. If a different natural language is used for a paragraph or selected text, this also needs to be clearly indicated.

To change the default language:
1. Go to menu item: **File.**
2. Select **Options** from the list in the left window pane.
3. Select Language from the list in the left of the Options dialog.
4. Under **Choose Editing Languages**, select the editing language you want to use.
   Note: to add an editing language, select the language from the drop down list labeled **[Add additional editing languages].**
5. Select **Set as Default**.
6. Close all Office 2010 programs and open them again for the changes to take effect.

To apply a language directly to selected text:
1. Select the text.
2. Go to menu item: **Review.**
3. In the **Language** section, select the **Language** button.
4. Select **Set Proofing Language.**
5. In the **Mark selected text as** box, select the language from the list.
6. Select **OK.**

To set the language:
1. Access the properties menu (see above).
2. Choose **"Advance Properties."**
   a. Choose the "**Custom**" tab.
   b. You will notice a blank to the right of Name. Select **"Language"** from the list.
   c. Type is **"Text"**.
   d. Value - type in **"English"**.
   e. Click "Add" and then **"OK"**.

Figure 35 - Set Language Window
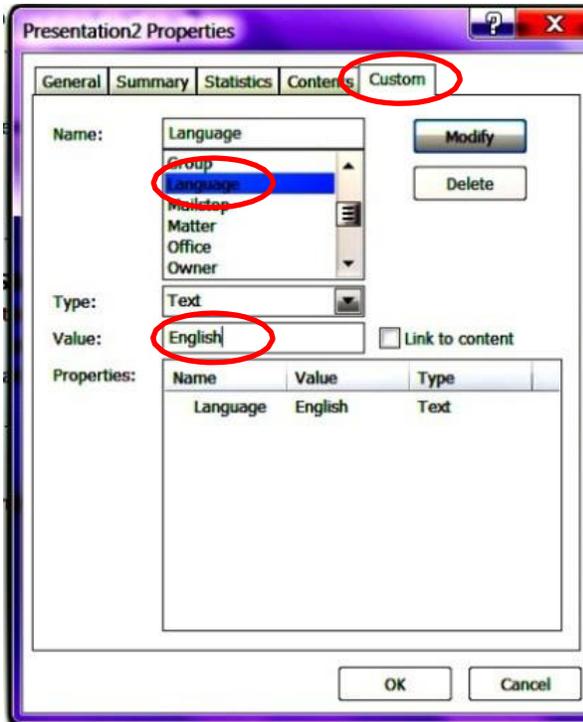
D. Create Accessible Templates

Areas of a PowerPoint - Default View
1. The major elements of a normal default view include:
2. Slide and Outline area on the left.
3. Content stage area in the center and right.
4. Notes pane area below the content stage area.
5. View button below Notes pane for Normal, Slide Sorter, or Slide Show view.

Figure 36 - Fields of a PowerPoint screen
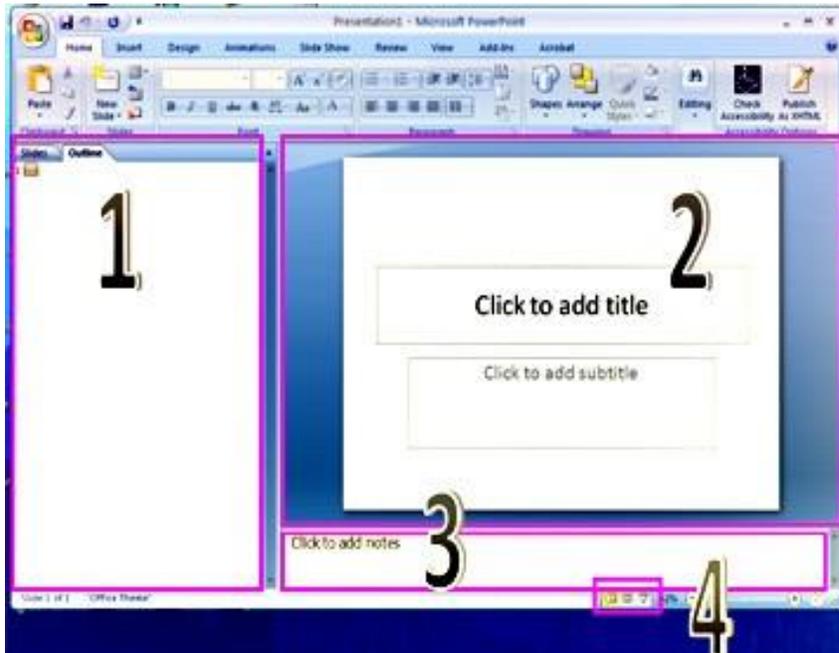
All slide text must be viewable in the Outline view.

It is critical that you learn to create slides via the Master Slide group. DO NOT use text boxes from the ribbon bar or drop graphics on a slide without using placeholders.

A PowerPoint document will not be accessible if you place images, graphics, or text on a slide without using PowerPoint's content placeholders. Content placeholders can only be added via the Master Slide window. All text must appear in the outline view of a presentation.

- Click the Outline tab in the Slide and Outline area to display the outline pane. Only text displayed on the outline pane will be read by a text-to-speech reader.
    - o Ensure each slide has a slide title. The slide title serves as the structure in navigating and understanding the logical flow of the slide presentation.
- The Outline is viewable when you are in Normal view.
- To switch between slide view and outline view, click the tabs at the top left navigation window.
- NOTE: Text added to the Notes Pane of a slide will not appear in the outline and will not be accessible by assistive technology.

E. Slide Layouts

PowerPoint is designed to encourage the use of slide layouts, especially in newer versions. Using these templates correctly will ensure that your files have correctly-structured headings and lists, proper reading order, etc. The correct use of slide layouts is probably the most significant thing

you can do to ensure that your content is accessible.

For each slide you create, select a preset layout with as many placeholders (placeholders may be text boxes, pictures, videos, etc.) as you will need for that slide. If the template doesn't have an option with enough placeholders, create an additional layout option that does (View/Slide master, Insert layout, Insert placeholder). If you do not use the available placeholders or create an additional lay out option, your presentation may not convert to a PDF properly. This can result in 508 error.

Extra placeholders can easily be moved, resized, removed, or ignored, slide by slide. If the preset options aren't adequate or you did not create a slide with enough placeholders, you will need to create a new layout option. Always use the available slide layouts never insert a blank slide and add text boxes. Adding text boxes to a slide may cause 508 errors.
Select Home > New Slide, or select the **New Slide button**, and a menu of slide types will appear.

Figure 37 - New Slide drop down menu
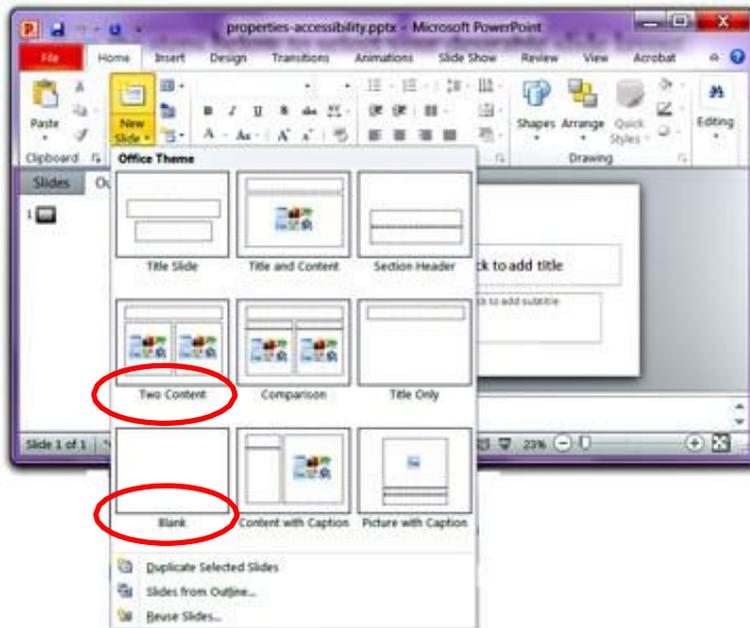
F. Adding New Layouts and Placeholders:
1. Select **Slide Master** from the view menu.
2. Select **Insert Layout**.
3. Click on **Insert Placeholder** to select type (repeat as needed). Don't be shy – you can drag them off the page and out of the way until you need them, or delete them later.
4. Close Slide Master by going to the View tab and selecting Normal.
5. From the Home tab use the New Slide button to create a new slide using one of the master templates found there.

G. Use Built-In Layout and Styling Features

PowerPoint 2010 does not offer "True Headings" or "Named Styles" as does Word 2010.

H. Use Built-In Slide Layouts

Instead of creating each slide in your presentation by starting from a blank slide, check whether there is a suitable built-in layout.

> *Note:* The built-in layouts can be more accessible to users of assistive technologies because they technologies sometimes read the floating items on the slide in the order that they were placed on the slide. The built-in layouts have usually taken this into account (e.g., "Title" first followed by other items, left to right and from top to bottom). If you create slide layouts from scratch, it is sometimes difficult to keep track of the order elements were placed.

I. Customize Using Master Slides

If a layout must be customized, it is recommended that Master Slides be used.

Every slide layout in a presentation is defined by its master slide. A master slide determines the formatting style for various elements of the slide layout. This includes font styles, character formatting, and the positioning of elements. Essentially, each master slide acts as a design template for the slide layout.

If you edit any aspect of the slide layout in the master slide, the change will affect all slides that were created based on it. For this reason, it is good practice to edit the master slide and use the slide layouts before building individual slides. It is essential that you create and use master slides that meet the accessibility requirements.

J. Columns of Text

If you put two or more columns of text on a page, use a standard layout that has two side-by-side text box placeholders. Never use the Tab key to separate lists of text into columns within a single text box. By using text box placeholders, a screen reader will read the entire first text box, and then move to the next text box in the slide's reading order. This will make much more sense to the listener.

Figure 38 - Using Columns for text
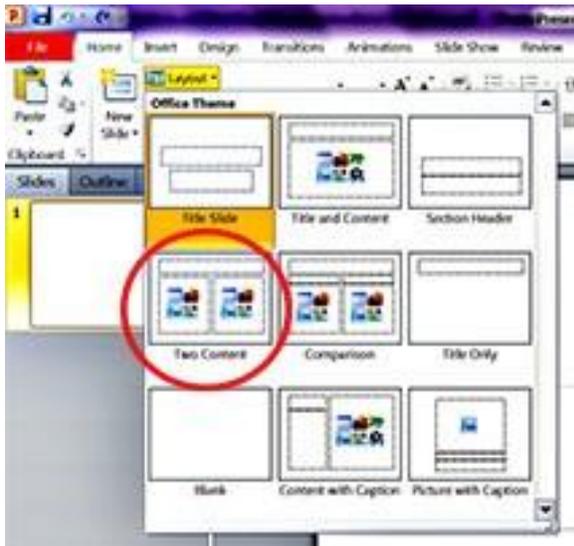
To create or customize a master slide:
1. Go to menu item: **View.**
2. In the **Master Views** section, select the **Slide Master** icon.
3 . The current slide master with its associate layouts appears.

> *Note:* If you have the **Normal** view open, the slide master is the larger slide image in the slide thumbnail pane. The associated layouts are positioned beneath the slide master.

4. Customize the existing master slide and its associated layouts to suit your needs (e.g., apply a design, theme-based colors, fonts, effects, backgrounds) ensuring that your changes meet accessibility requirements.
5. Go to menu item: File > Save As.
6. In the File name box, type a file name.
7. In the Save as type list, select PowerPoint template.
8. Select Save

K. Slide Design

Use the built-in designs offered in PowerPoint; however please know that not all of these design options have 'accessible' color contrast or other design elements. Please ensure that whatever design is chosen meets all the design considerations discussed in this section.

To access these design choices, go to the **Design** tab, and scroll through the options. The number of choices may be expanded by using the drop down menu highlighted below. From the Design tab menu, color selection and font choices can also be controlled.

Figure 39 - Slide Design Tab
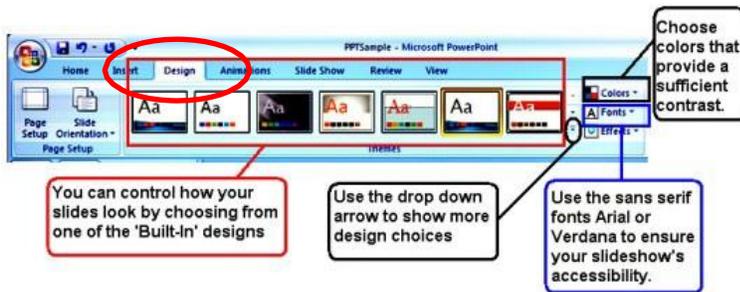
L. Fonts and Font Size

Because they are the easiest to read, only use Sans Serif fonts, such as Arial and Verdana.

Since a PowerPoint presentation will most likely be projected onto a large screen consider how far the audience will be from the screen and choose a font size accordingly. The minimum font size for a PowerPoint presentation is 24 points.

M. Use of Color and Contrast

Make sure your text color provides enough contrast with the background color that people can easily read it.

• Always put text on a plain, solid-colored background. Text placed on top of an image or patterned background is harder to see.
• Be sure to provide enough contrast between the text color and the background color.

Figure 40 - View of blank PowerPoint Master screen
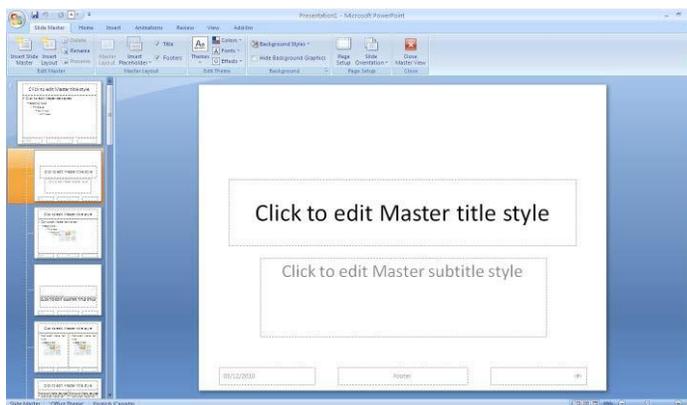
On the Slide Master tab, in the Close section, select Close Master View.

N. Set a Logical Tab Order

Many presentation applications create content composed almost exclusively of "floating" objects. This means that they avoid the transitions between in-line content and secondary "floating" objects (text boxes, images, etc.) that can cause accessibility issues in word processors.

However, when you are working with "floating" objects, it is important to remember that the way objects are positioned in two dimensions on the screen may be completely different from how the objects will be read by a screen reader or navigated using a keyboard. The order that content is navigated sequentially is called the "Tab Order" because often the "Tab" key is used to navigate from one "floating" object to the next.

O. Tips for Setting a Logical "Tab Order" for "Floating" Objects

- The tab order of floating objects is usually from the "lowest" object on the slide to the "highest".
- Because objects automatically appear "on top" when they are inserted, the default tab order is from the first object inserted to the last. However, this will change if you use features such as "bring to front" and "send to back".
- The slide's main heading should be first in the tab order.
- Headings should be placed in the tab order immediately before the items (text, diagrams, etc.) for which they are acting as a heading.
- Labels should be in the reading order placed immediately before the objects that they label.
- For simple slide layouts, it may be possible to simply insert objects in a logical tab order.
- For more complex layouts, it may be easier to simply to create the slide as usual and then set the tab order (see below).

To set the tab order using the 'Selection Pane':

1. Go to menu item: Home.
2. In the Drawing section, select Arrange > Selection Pane…
3. In the Selection and Visibility pane, all the elements on the slide are listed in reverse chronological order under Shapes on this Slide.
4. Elements can be re-ordered using the Re-order buttons located at the bottom of the Selection and Visibility pane.
    Note: The tab order of elements begins at the bottom of the list and tabs upwards.

P. Use Slide Notes

A useful aspect of presentation applications is the facility to add notes to slides, which can then be read by assistive technologies. You can use these slide notes to explain and expand on the contents of your slides in text format. Slide notes can be created as you build your presentation.

Figure 41 - View of Slide Notes page
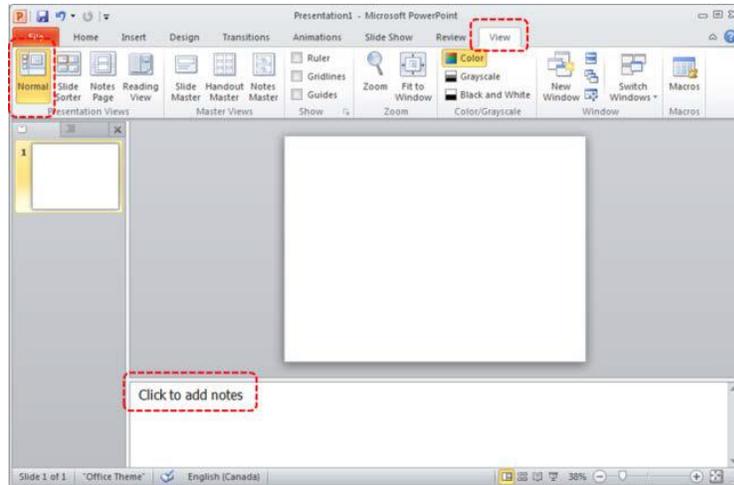
To add notes to your slides:

1. Go to menu item: **View.**
2. In the **Presentation Views** section, select **Normal** to ensure that the notes panel is in view.
3. *Note:* You can then select menu item **Home**, to access text formatting options.
4. The **Notes Pane** can be found at the bottom of the window, below the slide.
5. Type and format your notes within the **Notes Pane** below each slide.

Q. Add Alternative Text to Images and Objects

Alternative text appears when you move your pointer over a picture or object, and helps people using screen readers understand the content of images in your presentation. Alt text should be included for any of the following objects in your presentation:

- Pictures.
- Clip Art.
- Charts.
- Tables.
- Shapes (that don't contain text and are not in groups).
- SmartArt graphics.
- Groups (all objects in this list, with the exception of shapes, should also have alt text when in groups).
- Embedded objects.
- Video and audio files.

To add alternative text to an image, Right click on picture choose Format Picture.

Figure 42 - Format Pictures
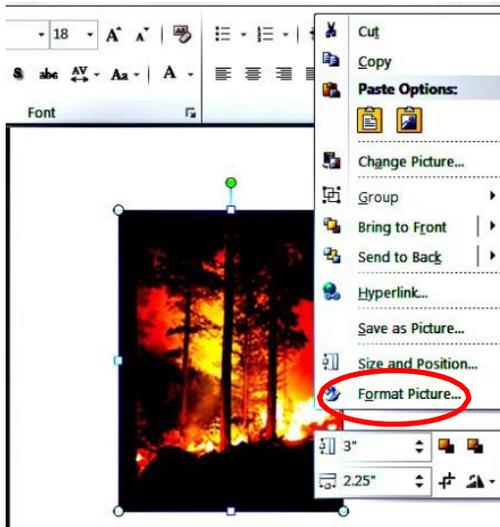
With the Format Picture menu open, select the option for **Alt Text** in the sidebar. Two fields will appear one labeled **Title** and one labeled **Description**. Type out the Title of your picture or object and then add descriptive text to the **Description** field.

Figure 43 - Description Field
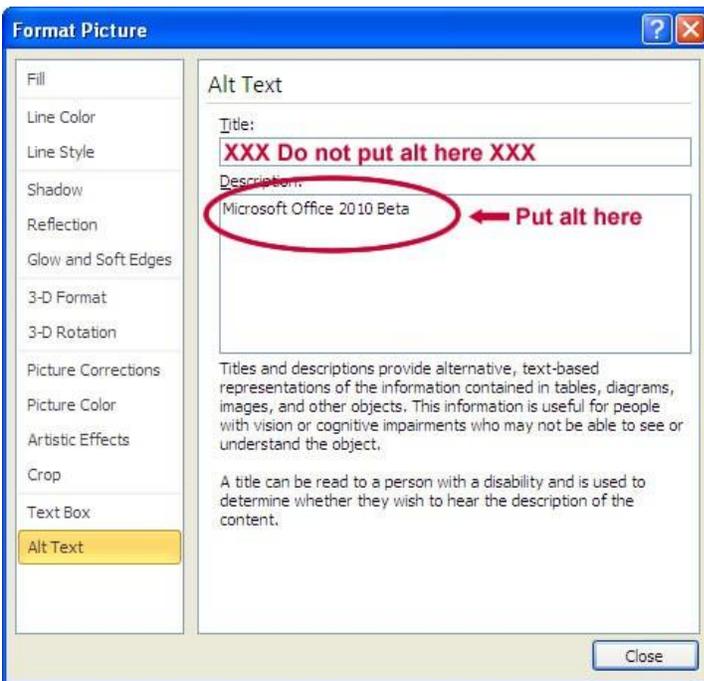
R. How to Group Small Graphics/Images

- Select one of the images.
- Hold down the "Shift" key and select the other images that are to be part of the group.
- Right-click the image.
- Scroll to "Grouping" and then mouse over to click "Group."
- **Alternative Method**
  - o Open the "Drawing" toolbar by going to View>>Toolbar>>Drawing.
  - o Click and drag to select all elements you would like to group.
  - o Right-click the image, scroll to "Grouping" and select "Group."

  **Note: images and shapes will not group together in MS Word. You can copy and paste into PowerPoint, group and copy back to Word. However, grouped items will lose their Alt text description and you will need to reapply.

S. Header Rows on Tables

Each table created must have the header row (first row in the table) clearly defined so that screen reader software will read the table in a manner that is understandable to the end user. Create the table as you would normally and select the table by clicking it. The best way to select a table is to click the four way cursor in the top left-hand corner of the table.

If tables must be used, they should be constructed with header rows, and may ***not contain***

merged cells. Also make sure reading order is left to right, top to bottom.
A header row is the first row or column in the table. The table should also include a title and if applicable a short description if the table is too complex.

   T. Specify Colum Information in Tables

In addition to adding alt text that describes the table, having clear column headings can help provide context and assist navigation of the table's contents.

Designating Table Headers:
   1. Click on the first row in the table and highlight the row.
   2. Go to the Table Tools.
   3. Click on Design.
   4. Check the Header Row check box for the First Column and/or First Row.
   5. Type (or retype) your column headings.
   6. Press the Enter key.

Figure 44 - Designating Table Headers

Use simple table structure
By not using nested tables, or merged or split cells inside of data tables, the data is predictable and easy to navigate.

To test and simplify the table structure, do the following:
1. Select the first cell of the table.
2. Press the **Tab** key repeatedly to make sure that the focus moves across the row and then down to the first cell of the next row.

   U. Add alt text for Tables:
      1. Right click on the Table, and then click **Format**.
      2. Click Format Shape.
      3. Click Alt Text.
      4. Enter descriptive text of the Table into the Title and Description text boxes.
          **Tip: Use clear, but concise descriptions. For example, "a red Ferrari" tells the

reader more about the image than "a car."

5. Click Close

V. Avoid Using Blank Cells to Format Tables

Using blank cells to format your table could mislead someone using a screen reader to believe that there is nothing more in the table. You can fix this by deleting unnecessary blank cells or, if your table is used specifically to layout content within your presentation, you can clear all table styles by doing the following:

1. Select the entire table.
2. On the **Table Tools Design** tab, in the **Table Styles** group, click the arrow next to the style gallery to expand the gallery of table styles.
3. On the menu below the gallery, click **Clear**.

W. Ensure that all Slides Have Unique Titles

Slide titles are used for navigation and selection by people who are not able to view the slide.

To add visible titles to your slides, do the following:
1. On the **Home** tab, in the **Slides** group, click **Reset** to restore slide placeholders for the selected slide.
2. Type a unique name in the **Title** text box.
3. If you do not want the title to be visible on your slide, do the following:
    a. On the **Home** tab, in the **Drawing** group, click the **Arrange** menu.
    b. Click **Selection Pane**.
    c. Click the eye icon next to the text box to toggle its visibility.

Figure 45 - Reset Slide
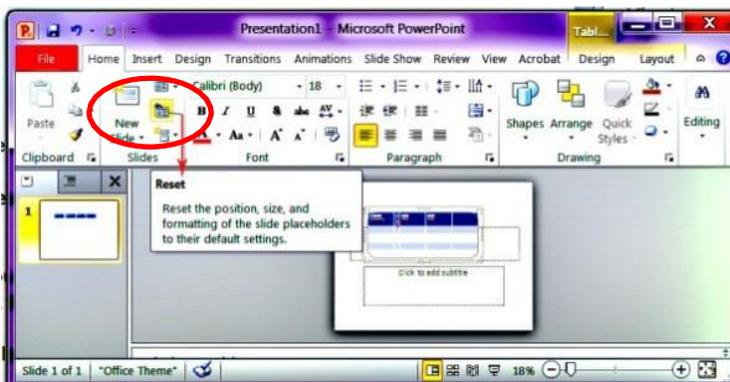
X. Use Hyperlink Text that is Meaningful

Hyperlink text should provide a clear description of the link destination, rather than only providing the URL. To add a hyperlink to your document, do the following:

1. Place your cursor where you want the hyperlink.
2. On the **Insert** tab, in the **Links** group, click **Hyperlink** to open the **Hyperlink** dialog box.
3. In the **Text to display** box, type in the name or phrase that will briefly describe the link destination.
4. In the **Address** box, type the link URL.
5. Click **OK**.

Y. To Change the Text of a Hyplerink

1. Select the link and then, on the **Insert** tab in the **Links** group, click **Hyperlink** to open the hyperlink dialog box.
2. In the **Text to display** box, make any necessary changes to the text.
3. Click **OK**.

Additionally, you can include ScreenTip text that appears when your cursor hovers over a hyperlink, and can be used in a similar way to alt text. To add ScreenTip text, do the following:

1. Place your cursor in the hyperlink you want to add **ScreenTip** text to.
2. On the **Insert** tab, in the **Links** group, click **Hyperlink** to open the hyperlink dialog box.
3. Click **ScreenTip…**
4. Type in your text in the **ScreenTip text** box.
5. Click **OK**.

X. Include Closed Captions for any Audio or Video:
1. Whenever you use additional audio or video components in a presentation, ensure that the content is available in alternative formats for users with disabilities, such as closed captions, transcripts or alt text.
2. If you're using PowerPoint 2010, you can download and install the Sub-titling text add-in for Microsoft PowerPoint (STAMP): http://office.microsoft.com/en-us/powerpointhelp/redir/HA102540315.aspx?CTT=5&origin=HA102013555, which lets you easily create closed captions for video and audio in your presentations.

Y. Ensure that the Reading Order of Each Slide is Logical

People who cannot view the slide will hear slide text, shapes and content read back in a specific order. If you are using objects that are not part of the slide template, it is important to be sure that they will be read by a screen reader in the order that you intend them to be.

To check the order in which your slide content will be read back, do the following:
1. On the **Home** tab, in the **Drawing** group, click **Arrange** and then choose **Selection Pane**.
2. The **Selection Pane** lists the objects on the slide. Objects will be read back beginning with the bottom list item and ending with the top list item. Correct any out of order items using the **Re-order** arrows on the bottom of the pane.

Z. Increase Visibility for Colorblind Viewers

Colorblindness affects a significant number of people, most often as an inability to distinguish between red and green, or seeing red and green differently. When creating presentations, it's important to choose elements that increase visual contrast so viewers who cannot rely on color distinction can still understand what they're seeing. Some things you can do when building a slide deck include:

- Avoid using orange, red, and green in your template and text.
- Use texture in graphs, instead of color, to highlight points of interest.
- Circle or use animation to highlight information, rather than relying on laser pointers or color.
- Keep the overall contrast in your presentation high.

AA.   Animations and Transitions

Avoid animation and automatic slide transitions since they:

- Can be distracting.
- Can cause screen readers to re-read slides.
- Can read parts of the slide out of order, and/or.
- May not give users enough time to read slide content.

Tips:
- Accept or reject and turn off track changes.
- Remove all comments from the document.
- All slides should be absent of flickering/flashing text and/or animated text.

BB.   Convert PowerPoint to Other Formats

PowerPoint is a good format for live presentations, but it is not the best format for distributing content on the web. PowerPoint files can be large, and users must either have Microsoft Office or a special plug-in in order to view them. The slides by themselves usually do not offer a complete summary of the information conveyed. If PowerPoint files are distributed or posted on the web it is recommended that they are exported to PDF.

Converting your presentations to a PDF

To save the accessible functionality of the PowerPoint document that has been created, it must be saved as a PDF.

Preferably you have Adobe Acrobat X or XI Pro software installed to continue on with making your PDF file.

Now that the document has a structure, alternative text for images, formatted columns, and

correctly styled tables, it is ready to be converted to the PDF file format. These general steps will help get your document to an accessible PDF.

- Turn Track Changes Off: Check to see if Track Changes is on or off. Track Changes is a toggle. If Track Changes is on click the Track Changes Icon under the Review tab.
- Remove All Comments: Note*: Always perform this step. Comments may be hidden.*
- To remove comments Click on the Reject Change/Delete Show Markup under the Review tab and make sure Comments in unchecked
- All Formatting Marks Turned Off: All formatting marks must be turned off.
- Click on Tools; Then Options to display the Option Menus. Formatting marks may be found under the View tab. Ensure that all formatting marks are turned off.

Convert your document to a PDF file:
1. With the document open and from the Word toolbar or ribbon, select Adobe PDF or Acrobat.
2. Click the Create PDF Icon.
3. You have now created a PDF file.
4. You will now be working in your opened PDF file. Follow the directions below.

Figure 46 - Create PDF
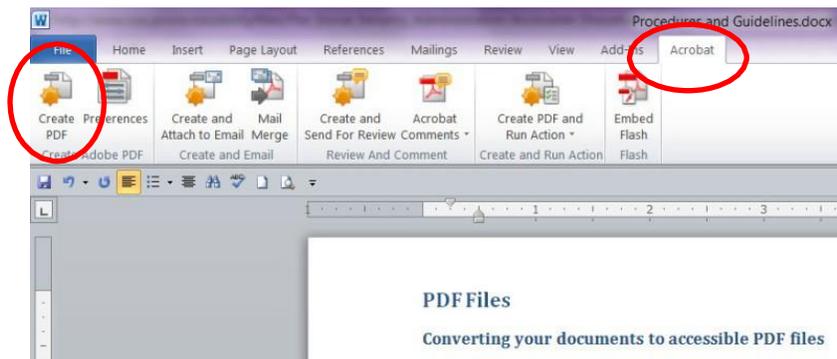
Evaluate PDF accessibility in Adobe Acrobat Professional:
1. Go to menu item: **Advanced > Accessibility > Full Check…**
2. In the **Full Check** dialog, select all the checking options.
3. Select the **Start Checking** button.

**Note: Remember to use the 508 compliancy checklist at the end of this document to be certain you have followed all steps necessary to make your PDF document compliant.

CC.   PowerPoint 508 Checklist

ID	1.0.Master Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.1	Does the document file name not contain spaces and/or special characters?			
1.2	Is the document file name concise, generally limited to 20-30 characters, and does it make the contents of the file clear?			
1.3	Have the Document Properties for Title, Author, Subject (AKA Description), Keywords, Language, and Copyright Status been applied?			
1.4	Does the document utilize recommended fonts (i.e., Times New Roman, Verdana, Arial, Tahoma, Helvetica, or Calibri)?			
1.5	Have track changes been accepted or rejected and turned off?			
1.6	Have comments been removed and formatting marks been turned off?			
1.7	Does the document refrain from using flashing/flickering text and/or animated text?			
1.8	Is the document free of background images or watermarks?			
1.9	Do all images, grouped images, and non-text elements that convey information have meaningful alternative-text descriptions?			
1.10	Do complex images (i.e., charts and graphs) have descriptive text near the image (perhaps as a caption)?			
1.11	Do all URLs contain the correct hyperlink and display the full URL? It should read http://www.nwcg.gov . NOT NWCG.			
1.12	Are all URLs linked to correct Web destinations?			

ID	1.0.Master Requirements for all Documents	Yes (Pass)	No (Fail)	N/A
1.13	Are e-mail links accessible?			
1.14	Has a separate accessible version of the document been provided when there is no other way to make the content accessible?			
1.15	If there are tables, are blank cells avoided?			
1.16	Is all of the text easy to read in comparison to the background of the document (i.e., has a color-contrast ratio of 4.5:1)?			
1.17	Has the document been reviewed in Print Preview for a final visual check?			

ID	2.0. General Layout and Formatting Requirements	Yes (Pass)	No (Fail)	N/A
2.1	Can all slide text be viewed in the Outline View?			
2.2	Do all of the slides avoid using flickering/flashing text and/or animated text?			
2.3	Do all of the slides avoid using text boxes or graphics with text within them?			
2.4	Is the list style being used as opposed to manually typed characters (e.g. Hyphens, numbers, or graphics)?			
2.5	If multimedia is present, did the multimedia pass the Multimedia Checklist?			

ID	3.0. Document Images Requirement	Yes (Pass)	No (Fail)	N/A
3.1	Are multiple associated images on the same page (e.g., boxes in an organizational chart) grouped as one object?			
3.2	Have all multilayered objects been flattened into one image and does that image use one alternative text description for the image?			

ID	4.0. Document Tables	Yes (Pass)	No (Fail)	N/A
4.1	If the document has a tabular appearance, was that tabular structure made using the table option (as opposed to manual tabs and/or spaces)?			
4.2	Do all tables have a logical reading order from left to right, top to bottom?			
4.3	Do data tables have the entire first row designated as a 'Header Row' in table properties?			
4.4	Is the table free of Merged Cells?			
4.5	Are all tables described and labeled (where appropriate)? Note: In some cases naming/numbering of tables may not be appropriate. For example, a small data table in a presentation may not need a reference.			
4.6	In table properties, is "Allow row to break across pages" unchecked?			

Chapter 9 - PDF Checking and Problem Solving

A. PDF Document Properties

The Title, Subject, Author, Keywords and Language are important elements of any document. They are used by search engines and screen readers to find and identify content in documents.

Ensure the document properties have been filled out when the original document was created:

1. Click on **File.**
2. Then **Properties.**
3. Select the **Description** tab
4. Complete the form as follows:

    a. **Title**: The actual title of the document (not the computer file name).
    b. **Author**: Your office…Committee name (not your personal name).
    c. **Subject**: Brief identification of the subject of the document.
    d. **Keywords**: Keywords are associated with the document during a search and will effectively rank the document for relevance. The closer your keywords are to the search words the user enters, the higher your document will be ranked in the search. When using multiple keywords, separate them with a comma. Be sure to choose words that are relevant to the content.

5. Next Select the Advanced tab.
6. Go down to Language and click on the drop down arrow and select English.
7. This part is now complete. Click on OK at the bottom of the page.

B. 508 Compliance Check

Once you have completed the Properties you will now need to check to see if it passes the 508 Compliancy test using Adobe Acrobat X or XI Pro. If you have properly structured your word document you should have very few errors if any.

Figure 47 - "Start" icon under the Make Accessible tab in Adobe Acrobat XI
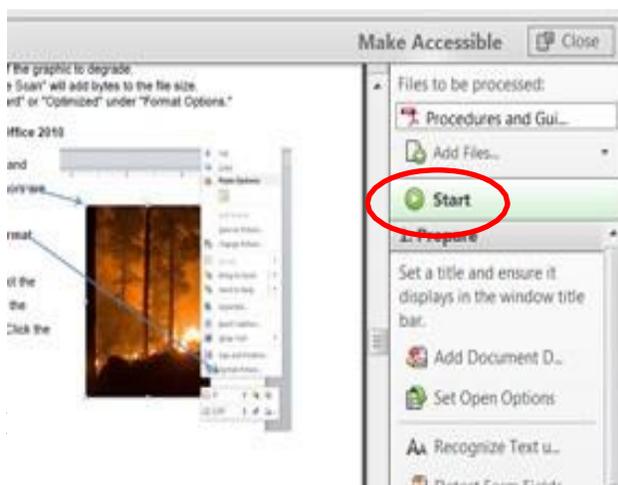
To check your PDF using XI Pro:

1. Open up your PDF file.
2. Click on Tools (located in the upper right hand corner of your PDF).
3. Another table will appear – Select "Action Wizard."
4. Select "Make Accessible" this action will guide you through each step in creating and verifying an accessible PDF.
5. Click on Start. This will start the automatic fields review. As the process starts new windows identifying each area will be displayed on your screen. All blanks need to be filled out:
   a. Description.
   b. Recognize Text.
   c. Is this a fillable form?
   d. Set reading Language (English).
   e. Acrobat will detect all figures in this document and will display any missing alt text.
   f. Accessibility Checker (In the middle of this page "Checking Options" there are 32 options available and it usually shows 31. You will need to click on the drop down arrow and Choose "forms, Tables Lists" to add it.
   g. After you have completed "f" above go to bottom of page and click Start Checking.

Figure 48 - Adobe Acrobat Checking Options

6. Results from Check – The results will appear on the left side of your PDF file. Click on each error and it will take you to the area in the document that needs to be fixed.
7. Also try right clicking on the error. If it says FIX, do that. Often, the fix feature will resolve the error.
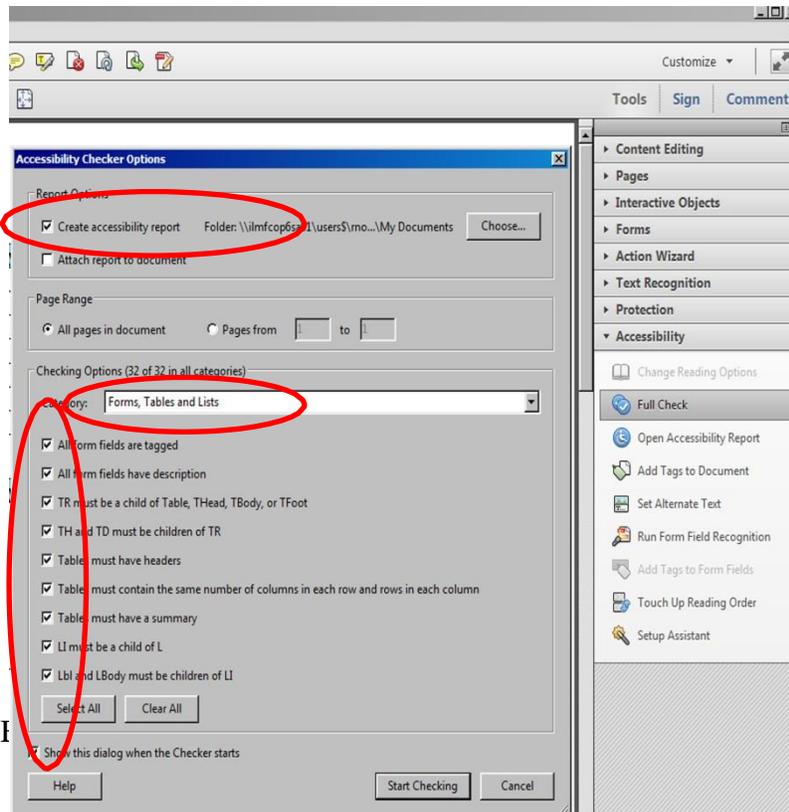
Figure 49 - Results from Check will appear on the left side of document
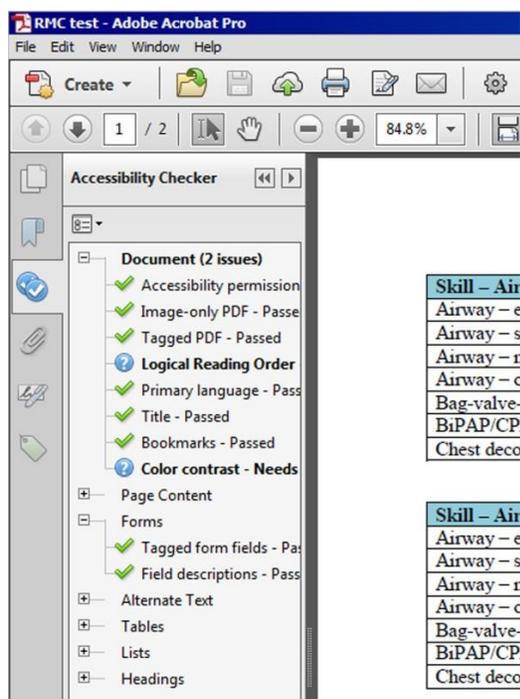
C. Avoid Scanned Documents

You should avoid using text documents that have been scanned if at all possible. A scanned text document is actually one large image per page and a screen reader will see this as a blank page. Scanned text documents are not accessible to screen readers without additional work that is often extensive.

To determine if a text document has been scanned, try to select some text using the Select Tool.

» Menu: Tools > Select & Zoom > **Select Tool**

Look at your cursor. If your cursor looks like a "cross-hairs" (+), rather than an "I-beam" (I), you are working with a scanned document. This will present an accessibility challenge and result in a much bigger file size. A large file size can also be a barrier for website visitors with dialup access.

What to Do with a Scanned Image

The first step for turning scanned documents into actual text is to go through an Optical Character Recognition (OCR) process, which turns the images of words into actual text on a page.

To make a scanned document accessible, you must convert the image of the document into "real" text. That is, the text must be selectable and scalable. This is usually done through OCR (Optical Character Recognition). If the PDF version is also to be your accessible version, you'll need to add additional accessibility mark-up – adding "tags" to your PDF, adding alternative text for images,

graphs, and charts, and adding header information to data tables. In addition, text created from a scanned image of a document is often converted into unexpected segments and these segments may be out-of-order in terms of the expected read-order of the document. You'll need to perform several checks to insure correct read- order is established, once your document is converted.

In order to insure your document is accessible to users of assistive technology, you'll need to edit the PDF document. In Adobe Acrobat version nine:

1. When first opening a scanned or legacy PDF, the "Scanned Page Alert" pop-up window may appear. Select OK. If it does not appear, manually enable OCR from the Acrobat menu. Select Documents >Recognize Text using OCR>Start.
2. From the Recognize Text pop-up window click the Edit button to access the RecognizeText Settings.
3. Set the Primary OCR Language combo box to the language used in the PDF.
4. Set the PDF Output Style combo box to "Formatted Text & Graphics".
5. Set the Down sample Image combo box to "Lowest (600 dpi).
6. Click OK to return to the Recognize Text pop-up window.
7. From the Recognize Text window, make sure the "All pages" radio button is selected and then click the OK button to perform OCR.
8. Add descriptive tags for non-text elements: graphs, charts, images.
9. Add accessible mark-up for tables.
10. Verify the read-order of the document.
11. As Acrobat performs its OCR process, it creates a list of "suspect" words and characters that could not be clearly identified.

In Adobe Acrobat version 10 and 11:

1. In the **Tools** window on the right, open the **Text Recognition** tab.
2. Choose **"In this file"** to recognize the scanned image.
3. You can choose to search single or multiple pages.
4. Under **Edit** set the language, PDF output style, and down sample size. The smaller the down sample size the smaller the file size, but the document won't be as sharp.

Fix OCR Suspects (text that was not recognized properly)

As Acrobat performs its OCR process, it creates a list of "suspect" words and characters that could not be clearly identified. You can see all the suspect items at once: from the DOCUMENT menu, choose PAPER CAPTURE and FIND ALL OCR SUSPECTS. Acrobat highlights all the suspect items in the document.

You must address each OCR suspect. Any OCR suspect that you ignore will not be converted into readable text and will be ignored by screen readers.

Walk through the OCR suspects one by one Acrobat 9:

1. From the DOCUMENT menu, choose PAPER CAPTURE, and FIND FIRST OCR SUSPECT.
2. The FIND ELEMENT dialog box appears showing the first "suspect" set of characters.
3. If the suspect characters are text, you'll be able to edit them in the dialog box. Otherwise, retype the correct text characters directly in the document using advanced editingtechniques in Acrobat.

4. Once you have corrected the suspect, choose "Accept and Find" to go to the next suspect item.
5. When you have corrected all suspect items, save your document.

To edit or delete text that was not recognized correctly:

1. Select Tools - Advanced Editing - Touchup Text Tool.
2. Left click on document and correct the OCR mistakes.
3. To turn off the Touchup Text Tool, activate the Hand tool located on the Acrobat toolbar.

Walk through the OCR suspects one by one Acrobat 10 and 11:

1. Under Text Recognition in the tools panel select OCR Suspects, either one at a time or all at once.
2. To fix any OCR suspects open the Touch Up Reading Order tool box under the Accessibility Tab.
3. Click on each suspect and apply the correct format.

Verifying Your Document Text

After you have performed OCR and addressed all the suspect characters, you can do a quick check to insure that the text of your document is available to screen readers: Save as text (accessible).

1. From the FILE menu, choose "SAVE AS."
2. In the "SAVE AS" dialog box, change the "SAVE AS TYPE" to "Text (Accessible) (*.txt)."
3. Click SAVE. Adobe converts your document to a plain text file using the same text that would be accessible to assistive technology, including alternative text for images and graphics.
4. Open your newly saved text version in Adobe. Compare the text in the plain text version to the text in the PDF version – are they the same? If not, edit the text and/or edit the tags in the PDF version and re-save as "Text (Accessible)" to check again.

D. Adding Tags to Your Document

Once you are certain that the necessary text is available on the document, you can add tags to your document. Adding tags creates a duplicate of your document that is marked-up for accessibility. Only the very latest assistive technology can read an untagged PDF. Plus, untagged PDF cannot be reflowed to fit available screen size and cannot contain additional information, such as alternative text for images. Thus, only a tagged PDF can be considered accessible.

You can use Acrobat's automated feature to add tags to your document:

1. From the ADVANCED menu, choose ACCESSIBILITY (version 9), Tools Panel Accessibility Tab (version 10 & 11) and "ADD TAGS TO DOCUMENT".
2. Acrobat generates a tagged version of your document that can only be viewed in the tags window. To open the tags window:

   a.   From the VIEW menu, choose NAVIGATION TABS and TAGS (version 9).
        Open the Tags Panel in the left toolbar (version 10 & 11).
   b.   Use the asterisk (*) key on the Number Key Pad to open all tag levels.
   c.   Use the minus (-) key on the Number Key Pad to close all tag levels.
3.   Check tags for accuracy, completeness, and read-order.

   E.   Checking Your Document for Accessibility

After adding tags, you can do a few quick-checks to insure your document will work well with assistive technology. You can also use these techniques at any point in your conversion process to check the accessibility of your document.

Highlighting content is a simple method to confirm:

   1.   Text is readable by a screen reader. Text that cannot be highlighted/selected is likely to be skipped or ignored by screen readers. Perform another OCR and confirm that deselected text is not a "suspect character".
   2.   Read-order of the document. The order that text is highlighted/selected is also the order the text will be read by a screen reader. Pay particular attention to text in tables or columns. Does the text in one cell bleed into the text in another? Can you select all of one column and then all of the next? Read-order can be changed by rearranging the tags.

   F.   Reflow

Document reflow assists users who enlarge the text or who are using small screens or resolutions, by reformatting the document to fit in the available screen. Without reflow, users may be forced to scroll widely horizontal as well as vertically.

To check for reflow:

   1.   Increase the text size to 300% or greater.
   2.   From the **VIEW** menu, choose **REFLOW** (version 9). **View**>**Zoom**>**REFLOW** (version 10 &11).

Note that how a document reflows also depends on read-order.

   G.   Read Aloud

The best way to check a document's accessibility is to use the same assistive technology your users will use to access the document. However, if you don't have access to a screen reader or screen enlarger, you can still get a sense of how those technologies will interpret your document by listening to it being read by Acrobat's "Read Out Loud" feature. Although not practical for lengthy documents, such as dissertation chapters or articles, this is a good strategy for shorter documents that will receive high circulation on your web site or will be required reading for your users.

To read out loud:

1. From the VIEW menu, choose **READ OUT LOUD**.
   a. Press **SHIFT + CNTRL + Y** to quickly read the current page.
   b. Press **SHIFT + CNTRL + B** to read the entire document.
2. To stop reading: go to the **VIEW** menu, **READ OUT LOUD**, and choose **STOP** or press **SHIFT + CNTRL + E**.

For longer documents, you may want to narrow your reading to only a few key pages: in particular, those pages that contain graphics, tables, columns, or text boxes.

However, if your document is not reading correctly, see "Check Reading Order" under Tips and Tricks on Correcting Errors in a PDF file.

H. Forms
   1. Forms **must be** created in Adobe Acrobat. Form fields will not convert from MS Word to PDF.
   2. Open the document in Adobe Acrobat Professional as you would normally.
   3. Select **Edit** from the Forms Sub Menu on the right of the document.
   4. Depending on the form, Adobe will ask to detect form fields for you. Click **Yes**. Adobe Acrobat will tag and label each form field that it detects.
   5. Go through your document to make sure all form fields were detected.
   6. On each form field, right-click and select **Properties**. Verify that there is a description in the **"Name"** area, and the same description in the **"Tooltips"** area. Fields will not work without both.

If a field is missing, create one by:

1. With the Form Menu open, click "Add New Field" and select the appropriate item (text field, check box, radio button, etc.).
2. Place the crosshairs at the insertion point, and hold down the mouse button while dragging.
3. Apply the appropriate Field Name.
4. Right-click to open the Properties dialog box and add a "Tooltip" description.

Fixing Reading Order in Forms:

If you had to add any new fields, then the reading order may be wrong. To fix:

1. With the Form Menu open, click the Tab Order arrow and in the drop down menu select Show Tab Numbers.
2. The info box that pops up is simply telling you to sort by tab order manually and you will do that next, so click OK.
3. Numbers should now be seen in each field. This is the order in which the fields will be read. If there are any numbers out of order on the screen go to the Tabs Oder again and select Order Tabs Manually. The next info box is simply telling you that we cannot reorder the fields between pages, so click OK.
4. Drag the tabs to the correct order.

Chapter 10 - Tips and Tricks on Correcting Errors in a PDF file

Helpful Hint: Adobe Acrobat does not let you undo changes when fixing PDFs! Therefore, if you are correcting a lot of errors, the best practice is to make a few changes at a time, do another accessibility check – to make sure the changes worked – if they worked, save and then continue. In the event the change caused more problems or didn't work, do not save and revert back to the last good save before moving on. You'll avoid losing hours of work because of one faulty correction.

A. Tables - Summaries Failed:

Summaries are required to pass the 508 Compliancy test. We have found no fix at this time to make the summaries follow the tables from MS Word when converting to PDF. They must be redone in the PDF file.

1. To correct this error in Adobe Acrobat Click **Tools > Accessibility > Touchup Reading Order**.
2. Touchup Reading Order screen will appear. Click **Close**.
3. Right click on the table that was identified with no summary and select **"Edit Table Summary"**.
4. Enter summary information.

B. Tables - Headers Failed**:**
1. To correct this error click **Tools > Accessibility > Touchup Reading Order**.
2. **Touch up Reading Order** screen will appear. Click **Close.**
3. Right click on the table that was identified with no head and select **"Table Editor."**
4. You should now see a **TD** in each cell.
5. At this point you need to determine which ones are the header cells.
6. Click the cell where it says TD. Right click and select **"Table Cell Properties."**
7. Change **Data cell** to **Header cell**.
8. Under **SCOPE** drop down choose appropriate tag (whether it's the header for a column or a row).

C. Regularity Failed:

Regularity issues come in to play because you may have merged cells in a table.   Tables must contain the same number of columns in each row, and rows in each column – but there is a work around to fix this issue.

The easiest way to fix this problem is to go back to your original document and fix it there.

To fix failed regularity using PDF tools:

After you perform a 508 compliancy check, click on the Tags icon. This will open up the tags listing all sections, paragraphs, tables, etc. Tags indicate the structure of the document and communicate the order in which the items should be read.

To Fix (example table):

1. Open the tags panel on left side of screen (looks like a little tag)
2. Locate the problem table and click the + symbol to open the string.
3. Open every **Table Row (TR)** and find the one with the highest number of **TH** or **TD** cells.
   Note in example: there's only one tag under the Table Header Merged cells area - there should be three tags.
4. You need to change this by adding more **TH** or **TD** tags.

Figure 50 - Tags section displaying the table data and header cells

Incorrectly saved using the "save as PDF"

Table Header merged cells		
Column Header 1	Column Header 2	Column Header 3
Data Header	Data	Data
Data Header	Data	Data
Data Header	Data	Data
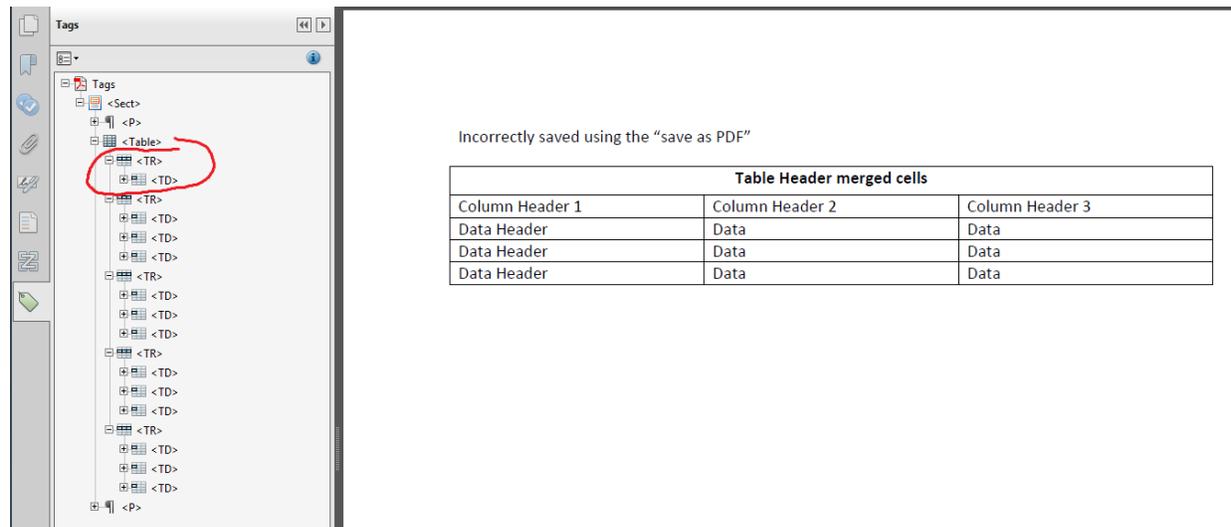
5. Start by going to Table Cell Properties and change the merged cell to a header cell, scope: None.
   a. Click on **Tools**.
   b. Click on the **Touch Up Reading Order**.

Figure 51 - Acrobat displaying the Touch up Reading Order icon
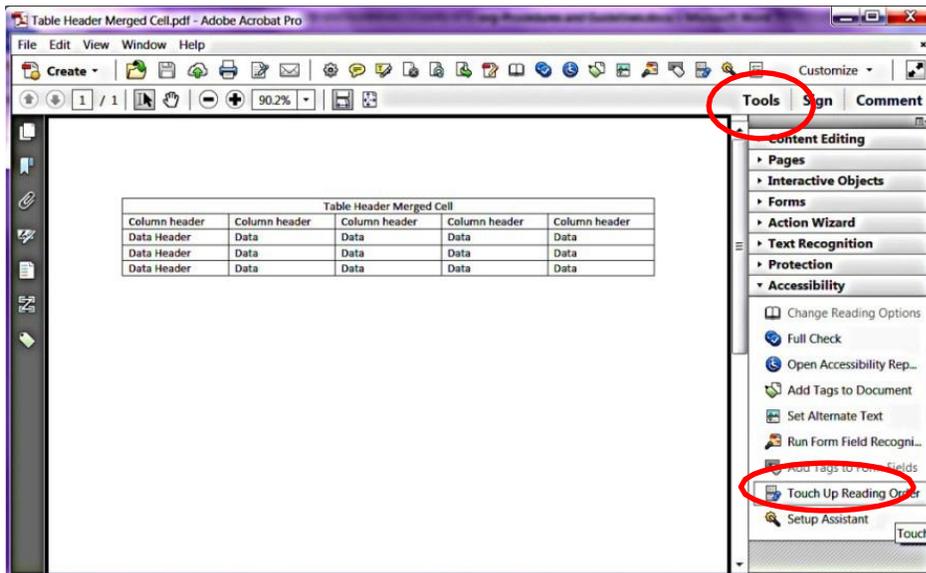
c. Once the **Touch up Reading Order** screen appears, click on **Close** (this action merely highlights the items on the page for you).

d. Right click on the table and select Table Editor to show you the **TH** and **TD** cells (See Figure 21 below.)

Figure 52 - Touch up Reading Order screen
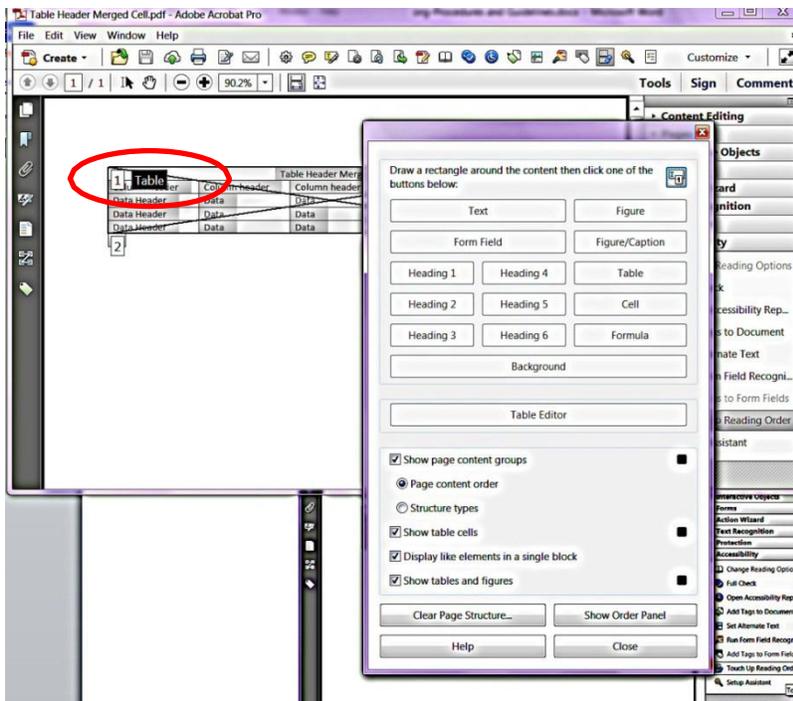
e. Right Click on **TD** to select the **Table Properties** screen.

f. Change the merged cell (Table Header merged cells) to a header cell, scope: None.

Figure 53 - Table Cell Properties menu
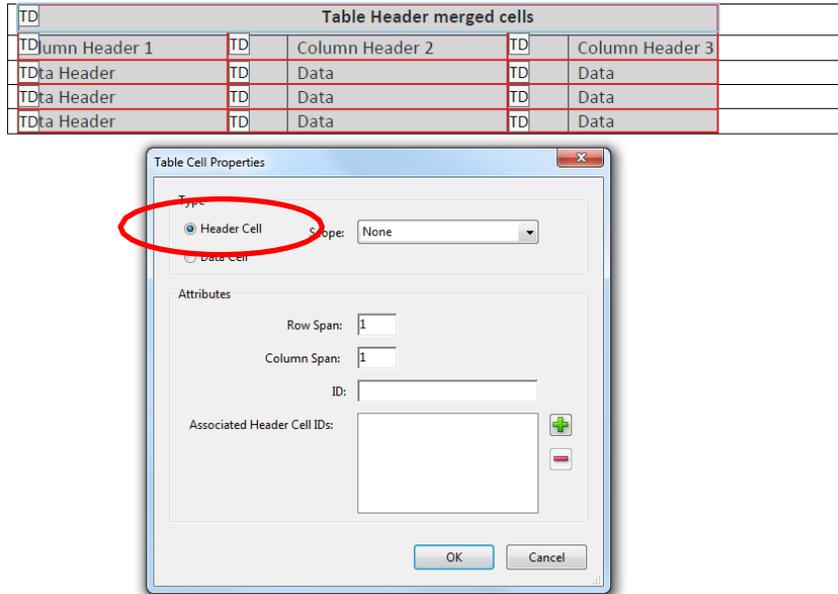
g. Next change the cells labeled **"Column Headers"** to Header cells, scope: **Column.**

Figure 54 - Table Cell Properties menu showing column headers
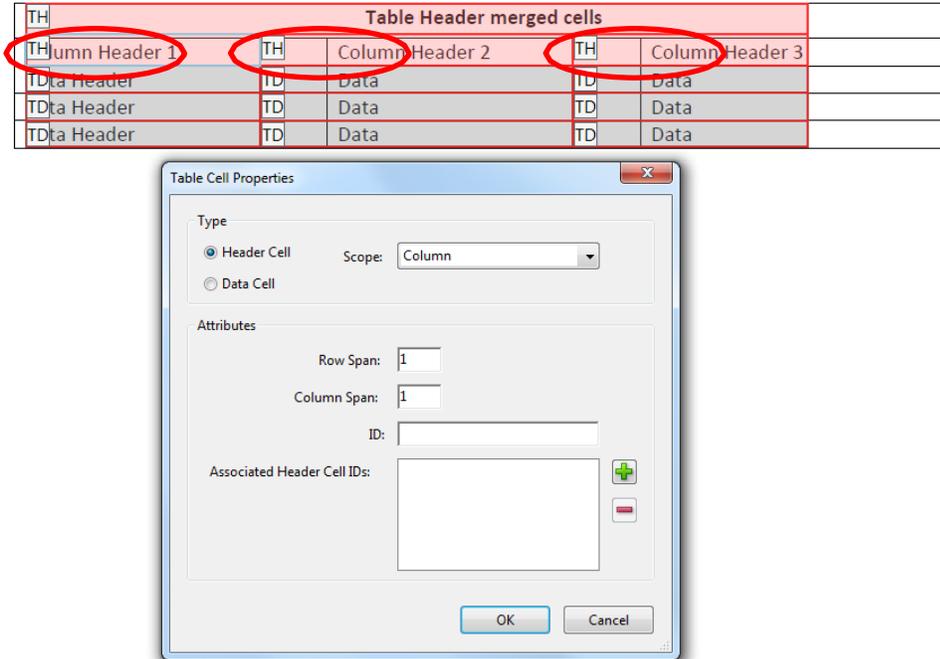
h. If your table also has **Header Rows** change the cells labeled **"Data Headers"** to **Header** cells, scope: Row.

Figure 55 - Table Cell Properties menu showing row headers
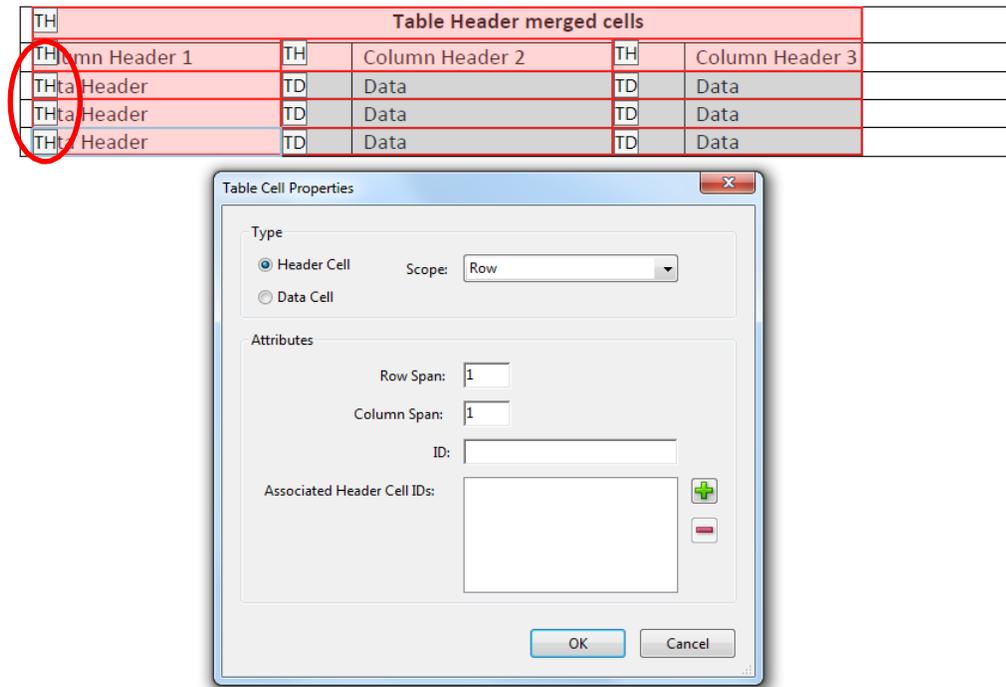
D. Add New Tags to the Table:
1. Open the Tags panel again and locate the problem table.
2. Open the first **Table Row (TR)** in the Tags panel.
3. Right click and select **NEW TAG**.
4. Set **Type** to **Table Header Cell** from the drop down menu and click **OK**.
5. Repeat step until number of **TH** tags match other Table Rows. All **TR** sections should have the same number of tags.

Figure 56 - Tags on the left side of the page and the New Tag menu opened
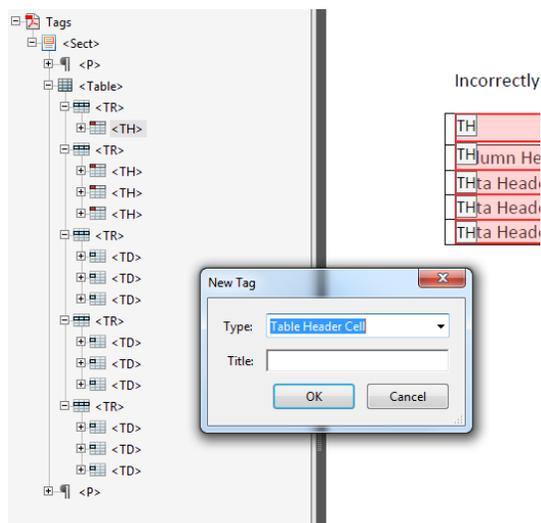
Make sure new tags are nested under the Table Row and not the Table. You can drag to the correct area if needed. For Table Rows with TH and TD tags (if you need to add more tags), there should only be one TH…the rest can be TDs. Repeat New Tag steps and change Type to "Table Data Cell" for TDs.

Figure 57 - Tags menu with correct tag structure
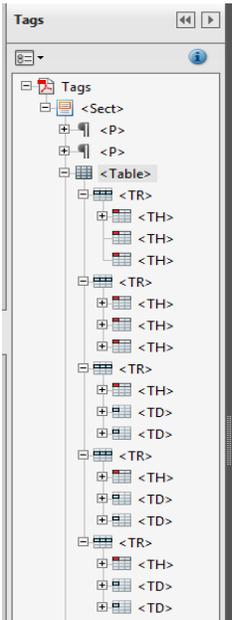
Your irregular table should now be fixed and read correctly.

E. Touchup Reading Order in a PDF file

Choose **Tools > Accessibility > Touchup Reading Order** to select the Touchup Reading Order tool.

Figure 58 - Touch up Reading Order view
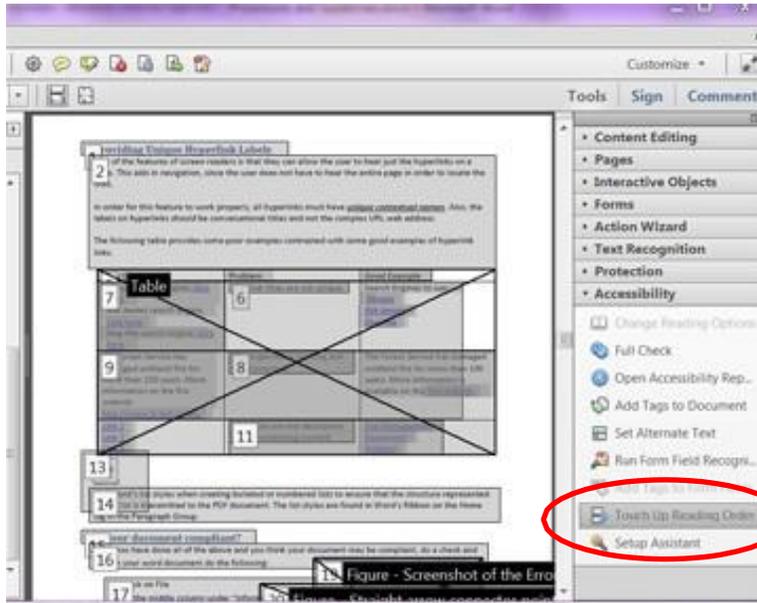
The Touchup Reading Order tool provides the easiest and quickest way to fix reading order and basic tagging problems. When you select the Touchup Reading Order tool, a dialog box opens that lets you see overlay highlights that show the order of page content. Each highlighted region is numbered and highlighted with gray or colored blocks; the number indicates the region's placement in the page's reading order.

F. Using the Touch Up Reading Order Tool to Add Alternate Text

1. Select the **Touch Up Reading Order** Tool.
2. Select **Show Tables and Figures** in the dialog box.
3. Right click the figure, and choose **Edit Alternate Text** from the pop-up menu.
4. In the Edit Alternate Text dialog box, type a new (or edit an existing) description for the figure, then click OK.

G. To Correct Reading Order**:**

1. From the **"Touch up Reading Order"** window, select show order panel.
2. On left side of screen, under **"Order"**, select the out of order item and drag it to the correct location in the reading order.

After you visually check the reading order of the page it's a good idea to use the "Read Out Loud" feature, found under VIEW, to be sure the Assistive Technology is reading the page correctly.

Figure 59 - Z Order or Reading Order Panel
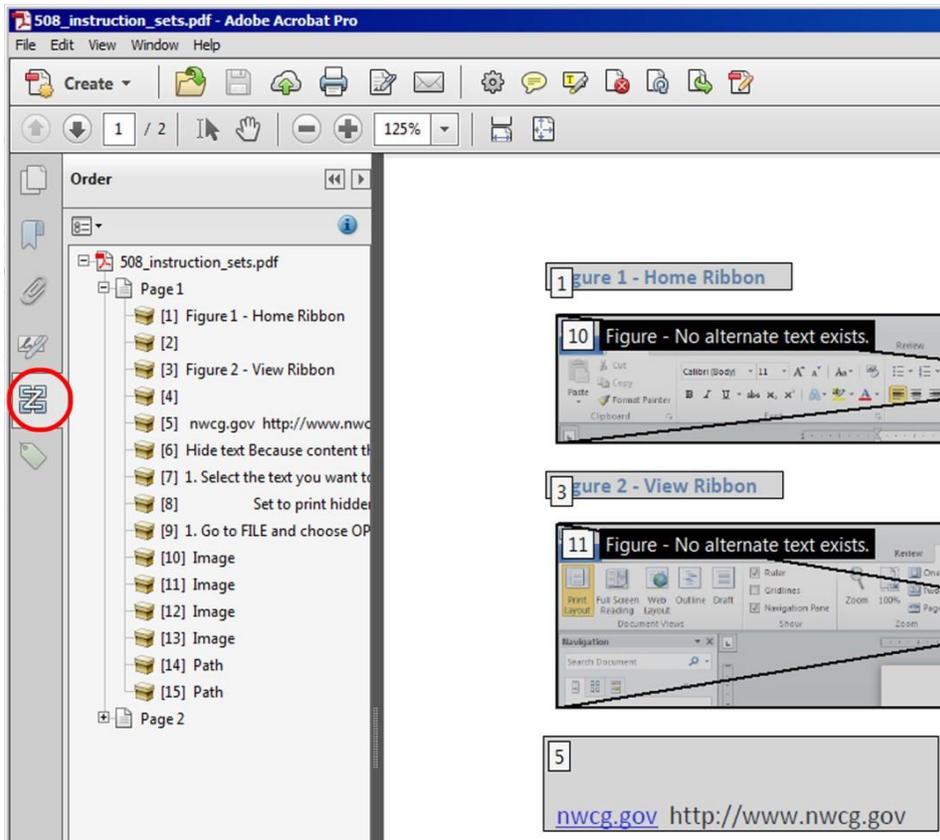
Unfortunately, more often than not, graphic images will not be in order, and using the "Z" order panel may not correct the problem. Also, you may find that when you drag an element it merges with another and then will not read correctly. Do not save and revert if this happens.

Instead correct tagging issues as needed using the following steps in **Correct Out of Order Tags**.

H. Correct Out of Order Tags:
1. Open the **Tags** panel.
2. Find the **Tag** that is out of order (Figures are often at the beginning or very end of the tag structure).

Figure 60 - Incorrect Tag Structure
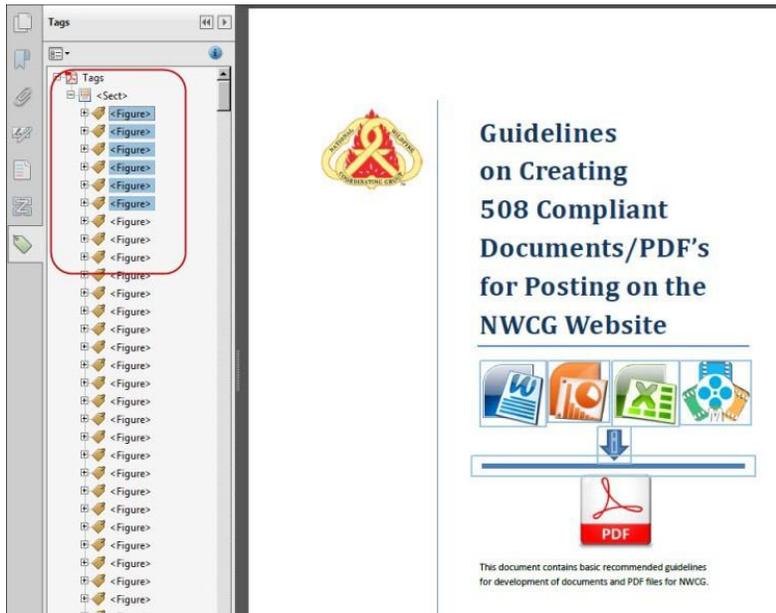
3. Drag the tag(s) to the correct location in the tags panel to match the screen layout. Do this for each page where the graphics or text is not in order. Note how "Figures" are now below the "H1" and above the "P".

Figure 61 - Correct Location of Tags

I. Setting Content to Background:

Often content such as decorative lines between paragraphs or borders around pages don't offer anything other than visual appeal and don't necessarily need to be read aloud. These kinds of images can be set to background so assistive technology won't attempt to read them.

1. Open the Touch Up Reading Order window.
2. Select the item by either clicking on it or dragging your cursor while holding down the right mouse button over the entire image. It helps to zoom in.
3. With the element selected, click the background button in the Touch Up Reading Order Screen. Or right click and choose background from the flyout menu.
4. You may need to go into the Tags panel and delete any empty tags left there after you have set them to background. An empty tag does not have a (+) sign in front of it.

J. Changing Content Tags:

Sometimes Adobe gets it wrong. You may see content that was labeled a table instead of text, or a labeled a paragraph instead of a heading. If text is not labeled at all, you will need to apply one. Simply select the incorrect group and either use the Touch Up Reading order window and apply the correct label, or right click and select the correct label from the drop down window. From the Tags panel you can select the tag, right click and choose Properties to apply to correct label type.

K. List Errors

If you don't create lists using the correct tools on the Home tab, you're in for a bad time. They are time consuming to fix and if you've got a lot of them it can get confusing.

Figure 62 - Correct order for List Items in the tag structure
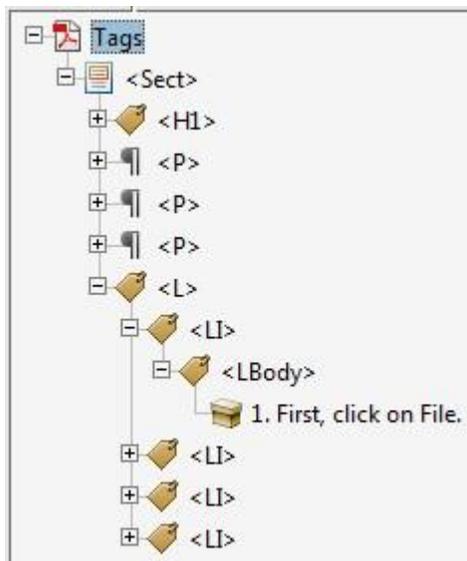
List <L> is always the main folder for the group.

List Item <LI> is the folder for the numbered items and items listed under that

number. List Body <LB> is the folder for the actual text. This goes under List Item.
Lists are also created when we have linked content from a TOC or Table of Content structure.

Figure 63 - Example of a complex list structure

Figure 64 - Example of Linked List tag structure
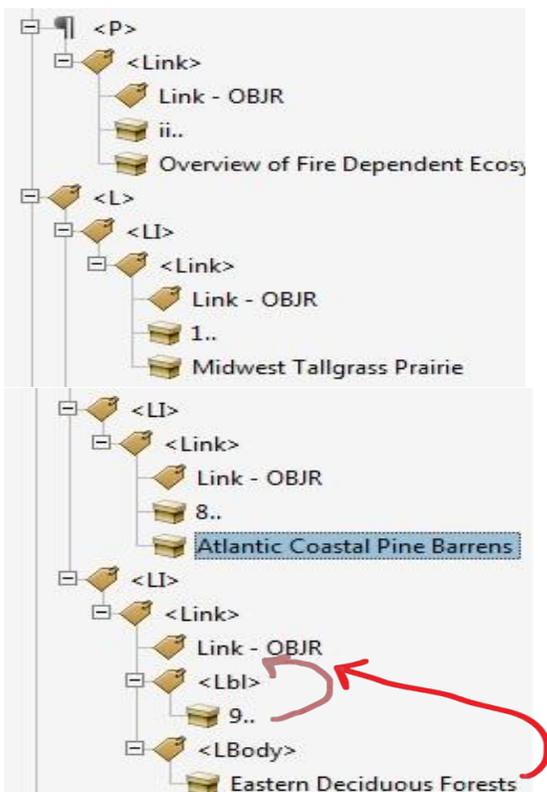
If your list Links from another part of the document such as the Table of Contents, you will
see a **Link – OBJR.** This folder will reside under the <LI> folders.

Acrobat may incorrectly place content in the wrong structure and you will have to fix it. Simply drag the <Lbl> and <LBody> content, not the folder, under the Link – OBJR folder and delete the now empty <Lbl> and <LBody> folders.

L. Annotation Errors

There are many kinds of annotations. The key is, knowing what you are looking at before you begin.

If you get a **Tagged Annotations Failed** error when you do an accessibility, to fix:

1. Right click on the listed error to see what the error is on the page. Note what kind of content it is.
2. In the error panel right click on the listed error and choose **View in Content Panel.**
3. In the Content Panel it will have the error listed under the Annotations.
4. Choose the **Options** drop down and select **Find**.
5. In the Find Element window select **Unmarked Annotation**.
6. Choose Search Page or Entire Document.
7. Click on the Find button at the bottom of the window. If it finds anything the Tag element box will become available.
8. Note what is highlighted on the page first and then click the Tag Element button.
9. Select the Type (most common is a Link or Form) and say OK.
10. The Tag Element button will remain available until all untagged annotations have been resolved.

M. Tagged Form Fields

When Tagged Form Fields fail, follow the same steps as above. After clicking the Tag Element button, choose the Type dropdown and select Form.

N. Tab Order

With a **Tab Order – failed**, try right clicking on the error first and select fix. To manually fix the tab order for links, form fields, comments, and other annotations:

1. Click the Pages panel on the navigation pane.
2. Click a page thumbnail, and then choose Page Properties from the Options menu.
3. In the Page Properties dialog box, choose Tab Order. Then, select Use Document Structure, and click OK.

O. Encoding Errors

Encoding errors happen when one; a document created on a Mac using special characters is saved as a PDF and then opened on a PC, or two; font conflicts occur. The best way to avoid these issues is to use Open Type, or install the missing fonts on your computer. For Mac users saving documents for PC use, convert fonts to curves/outlines prior to saving as a PDF.

We can't recreate one of these errors, but we can suggest how to fix them if you encounter one.

1. Click on the error in the Accessibility Checker panel to locate the element on the page.
2. Next open the Content Editing tab in the Tools panel.
3. Select Edit Text & Images.
4. Highlight the error on the page itself and under format try changing the font. If you can find a font that is compatible with what was used, it may fix the problem.
5. If this doesn't work, and you have no way of obtaining the original to edit, you can delete the offending element and try replacing it by adding a new text element or image. Be careful not to change content essential to the meaning of the document.

P. Using the Acrobat XI Pro Accessibility Checker

A complete walkthrough of Acrobat XI's Accessibility Checker, as well as the Make Accessible action wizard.

- Adobe Acrobat XI Pro Accessibility Guide: Using the Accessibility Checker (PDF,9.2M).
  http://wwwimages.adobe.com/www.adobe.com/content/dam/Adobe/en/accessibility/pr oducts/acrobat/pdfs/acrobat-xi-accessibility-checker.pdf
- Acrobat XI Pro PDF Accessibility Repair Workflow.
  http://wwwimages.adobe.com/www.adobe.com/content/dam/Adobe/en/accessibility/pr oducts/acrobat/pdfs/acrobat-xi-pdf-accessibility-repair-workflow.pdf

Analyze PDF files and add enhancements to make documents accessible to all users.

Appendix 1 - Font Index

Following are fonts commonly found in MS Word, and at this time known to be compliant. We suggest limiting your document to no more than two fonts.

Word 508 Compliant Fonts	
Agency FB	Constantia
Albany	Cooper
Albertus	Copperplate Gothic
Algerian	Corbel
Andale	Cordia Coronet
Andalue	Cornet
Angsana New	Courier
Antique Olive	Curlz
Aparajita	DauaPeah
Arabic typesetting	DFKai
Arial	Dillenia
Baskerville Old Face	DokChamps
Batang	Dotum
Bauhaus	Ebrima
Bell	Edwardian Script
Berlin Sans	Elephant
Bernard	Engravers
BlackLadder	Eras
Bodoni	Estrangelo
Book Antiqua	Eurcrozia
Bookman Old Style	Euphemia
Bookshelf Symbol 7	FangSong
Bradley Hand	Felix Titling
Britannic Bold	Footlight
Browallia New	Forte

Word 508 Compliant Fonts	
Brush Script	Franklin Gothic
Calibri	Freesia
Californian	Freestyle Script
Calisto	French Script
Cambria	Gabriola
Candara	Garamond
Castellar	Gautami
Centaur	Georgia
Century	Freesia
Century Gothic	Freestyle Script
Century Schoolbook	French Script
CG Omega	Gabriola
CG Times	Garamond
Chiller	Gautami
Clarendon	Georgia
Colonna	Freesia
Comic Sans	Gigi
Consolas	Gill Sans
Gloucester	Microsoft Himalaya
Goudy Old Style	Microsoft Jheng Hei
Goudy Stout	Microsoft New Tai Lue
Gulim	Mocrosoft PhagsPa
Gungsuh	Microsoft Sans Serif
Hattenschweiler	Microsoft Tai Le
Harlow Solid	Microsoft Ughur
Harrington	Microsoft YaHei
High Tower	Microsoft Yi Baiti
Impact	MingLiU
Imprint	Mistral

Word 508 Compliant Fonts	
Informal	Modern No. 20
Iris	Mongolian Baiti
Iskoola Pota	Monoty[e Corsiva
Jasmin	MoolBoran
Jokerman	MS Gothic
Juice	MS Mincho
KaiTi	MS Outlook
Kalinga	MS PGothic
Kartika	MS PMincho
Khmer	MS Reference Sans
Kodchiang	MS Reference Specialty
Kokila	MS UI Gothic
Kristen	MT Extra
Kunsteler Script	MV Boli
Lao	Niagara Engrave and Solid
Latha	NSimSun
Leelawadee	Nyala
Letter	OCR
Lucida Bright	Old English Text
Lucida Caligraphy	Onyx
Lucida Console	Palace Script
Lucida Fax	Palatino
Lucida handwriting	Papyrus
Lucida Sans Typewriter	Parchment
Lucida Sans Unicode	Perpetua
Magneto	Plantagenet Cherokee
Maiandra	Playbill
Malgun	PMing
Mangal	Poor Richard

Word 508 Compliant Fonts	
Marigold	Pristina
Marlett	Raavi
Matura	Rage
Meiryo	Ravic
Rockwell	Tempus
Sakkai majalla	Times New Roman
SAPDings	Traditional Arabic
SAPIcons	Trebuchet
Script	Tunge
Segoe	TW Cen
Shonar Bangla	Universe
Showcard gothic	Utsaah
Shruti	Vani
SimiHei	Verdana
Simplified Arabic	Vijaya
SimSun	Viner Hand
Snap	Vivaldi
Stencil	Vladimire Script
Sylfaen	Vrinda
Symbol	Wide Latin
Tahoma	

These are the fonts known to have issues. We suggest not using them.

Word Fonts with Known 508 compliant Issues	
Adobe Arabic	Giddyup
Adobe Caslon	Hobo
Adobe Fan Heiti	Kozuka Gothic
Adobe Fangsong	Levenim
Adobe Garamond Pro	Lithos
Adobe Gothic	Lucida Sans
Adobe Hebrew	Mesqutte
Adobe Heiti	Minion pro
Adobe kaiti	Miriam
Adobe Ming	Myriad Pro
Adobe Myungjo	Narkisim
Adobe Nash	Nueva
Adobe Song	Orator
Aharoni	Poplar
Birch	Prestige
Blackoak	Rod
Chaparral Pro	Rosewood
Charlemagne	Tekton
David	Trajan Pro
FrankRuehl	

Appendix 2 - Symbol Shortcuts

Alt + (the number)

☺	1	▲	30	<	60	Z	90	x	120	û	150	┤	180	╥	210	≡	240
☻	2	▼	31	=	61	[	91	y	121	ù	151	╨	181	╨	211	±	241
♥	3	spac	32	>	62	\	92	z	122	ÿ	152	╢	182	╘	212	≥	242
♦	4	!	33	?	63	]	93	{	123	Ö	153	╖	183	╒	213	≤	243
♣	5	"	34	@	64	^	94	|	124	Ü	154	╕	184	╓	214	⌠	244
♠	6	#	35	A	65	_	95	}	125	¢	155	╣	185	╫	215	⌡	245
•	7	$	36	B	66	`	96	~	126	£	156	║	186	╪	216	÷	246
◘	8	%	37	C	67	a	97	△	127	¥	157	╗	187	┘	217	≈	247
○	9	&	38	D	68	b	98	Ç	128	Pts	158	╝	188	┌	218	°	248
◙	10	'	39	E	69	c	99	ü	129	ƒ	159	╜	189	█	219	·	249
♂	11	(	40	F	70	d	100	é	130	á	160	╛	190	▄	220	·	250
♀	12	)	41	G	71	e	101	â	131	í	161	┐	191	▌	221	√	251
♪	13	*	42	H	72	f	102	ä	132	ó	162	└	192	▐	222	ⁿ	252
♫	14	+	43	I	73	g	103	à	133	ú	163	┴	193	▀	223	²	253
☼	15	,	44	J	74	h	104	å	134	ñ	164	┬	194	α	224	■	254
►	16	-	45	K	75	i	105	ç	135	Ñ	165	├	195	ß	225		255
◄	17	.	46	L	76	j	106	ê	136	ª	166	─	196	Γ	226		
↕	18	/	47	M	77	k	107	ë	137	º	167	┼	197	π	227		
‼	19	0	48	N	78	l	108	è	138	¿	168	╞	198	Σ	228		
¶	20	1	49	O	79	m	109	ï	139	⌐	169	╟	199	σ	229		
§	21	2	50	P	80	n	110	î	140	¬	170	╚	200	µ	230		
▬	22	3	51	Q	81	o	111	ì	141	½	171	╔	201	τ	231		
↨	23	4	52	R	82	p	112	Ä	142	¼	172	╩	202	Φ	232		
↑	24	5	53	S	83	q	113	Å	143	¡	173	╦	203	Θ	233		
↓	25	6	54	T	84	r	114	É	144	«	174	╠	204	Ω	234		
→	26	7	55	U	85	s	115	æ	145	»	175	═	205	δ	235		
←	27	8	56	V	86	t	116	Æ	146	░	176	╬	206	∞	236		
∟	28	9	57	W	87	u	117	ô	147	▒	177	╧	207	φ	237		
↔	29	:	58	X	88	v	118	ö	148	▓	178	╨	208	ε	238		
		;	59	Y	89	w	119	ò	149	│	179	╤	209	∩	239		

Some other often used Symbol shortcuts: TM (Alt+Ctrl+T), © (Alt+Ctrl+C), ® (Alt+Ctrl+R)