City & County of San Francisco
Department of Technology

SFGov
Accessibility Standards
& Guidelines

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Accessibility Compliance & Disabled Users

Why is Accessibility Compliance Important?

- The Federal Access Board requires all City and County of San Francisco websites to be compliant with Section 508 Accessibility Guidelines.

- Approximately 20% of the US population requires assistive technology to browse the web.

- Compliance with the required Section 508 Guidelines will allow disabled users to access all web content.

Types of Disabled Users

When creating web content it's important to take the following disabled users into account.

- **Vision Impaired**
  - Low Vision
  - Blindness
  - Color Blindness

- **Hearing Impaired**
  - Deafness
  - Hard of Hearing

- **Mobility Impaired**
  - Physical Disabilities
  - Wheelchair Bound
  - Missing Limbs

- **Cognitive Impaired**
  - Reading Disorders
  - Learning Disorders
  - ADD (Attention Deficit Disorder)

Section 508 Standards

For additional references, following is the link to the Federal Access Board's Section 508 Standards for Web-based Intranet and Internet Information and Applications (1194.22).
http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/guide-to-the-section-508-standards/web-based-intranet-and-internet-information-and-applications-1194-22

Guideline 1 – Images and Text Alternatives

Section 508: § 1194.22 (a)

Requirements

All images must include an alternative text equivalent via an "Alt" or "Longdesc" attribute. The "Alt" attribute communicates the meaning of images to people who use screen readers and text only browsers. The "Longdesc" attribute should be used when the alternative text exceeds 150 characters.

How to Add ALT Text to an Existing Image in the WCM

1. From the **WCM Navigation** bar select **Content** and click on the link entitled **Files.**
2. From the Files screen browse the **Folders** and **Thumbnail** images.
3. Select the thumbnail image of the file that you want to edit and click on **Edit Selected**.
4. On the **Edit** screen enter the ALT text and **Save**.

Figure 1. Select Image to Edit
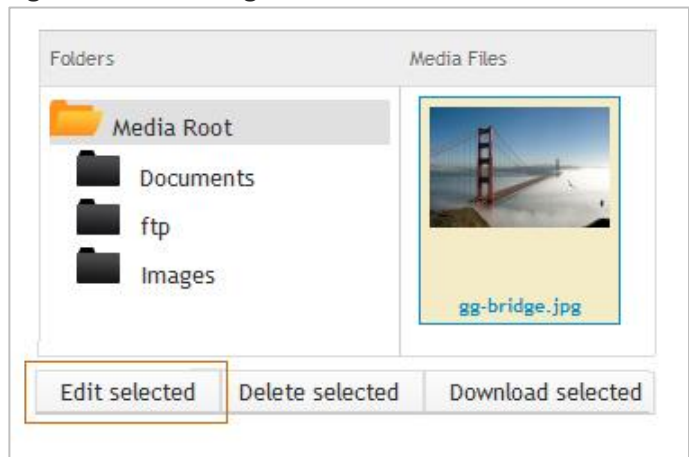
Figure 2. Add Alt Text

How to Add ALT Text to a New Image in the WCM

1. From the **WCM Navigation** bar select **Content** and click on the link entitled **Files**.
2. From the Files screen click on **Add File** link.
3. On the Add File screen click on the **Add Files** link and select the file you want to add.
4. Click on **Start Upload** link and complete upload.
5. Select the appropriate **Media Folder** for the file.
6. Click on **Next**.
7. Enter Image **Alt text** and click Save.

Figure 1. Add File

Figure 2. Add File Screen

Keep in Mind

- Alternative text should be concise yet descriptive (no more than 150 characters). Use the Long Description field if more text is needed.
- If the image displays text, the alt-text and long description should be used to convey the same letters/words. Ex: "Important!"
- For images that are also links, use the alt-text to identify the link's destination and/or function. Ex: "Go to top of page".
- For images that are invisible, decorative, or do not convey meaning – enter only a space in the Image alt-Text field. This will indicate that the image can be safely ignored by a screen reader.

Examples of Descriptive ALT Text:

alt="About the Neighborhood Emergency Response Team"

alt="Mayor Announces Investment in Public Transportation System"

Examples of Non-Descriptive ALT Text:

alt="Slide1"

alt="thumb_IMG_2294.png"

ALT Text Popup Tool:

Firefox browser plugin that once installed will show a pop up with the ALT tag description if one is present (once you roll over the image). You can download the plugin on the following web page. https://addons.mozilla.org/en-US/firefox/addon/popup-alt-attribute/

Guideline 2 – Tables and Layouts

Section 508: § 1194.22 (g), (h)

Requirements

Tables should only be used for data tables and not for layout purposes.
A data table needs to include the following elements.

- A minimum of two columns
- Column and/or row headers

Example of a Data Table

Column | Header (annotations)

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7

How to Create a New Table in the WCM

1. Log in to the **Drupal WCM** and **Add New Content** or **Edit Existing Content**.
2. In the text editor, click on the **Table Property Icon** on the editor toolbar per **Figure 1** below.
3. From the Table Property Window, per **Figure 2**, enter **Row**s, **Column**s and **H**e**ader** information.

Figure 1. Toolbar

Figure 2. Table Property Window
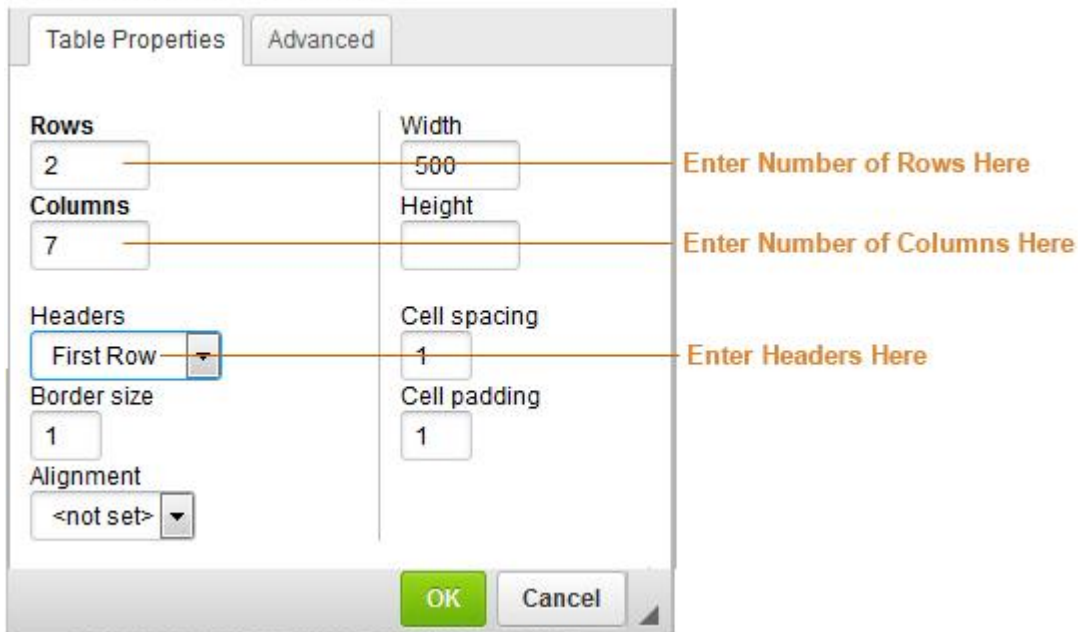
How to Edit an Existing Table in the WCM

1. Once logged in to the Drupal WCM go to **Find and Edit Content** OR navigate to the page by using the site top navigation menu.
2. Click on the link entitled **New Draft**.
3. In the text editor window select the table with your mouse and right hand click.
4. Select **Table Properties** from the menu per **Figure 1** below.
5. From the Table Property Window, per **Figure 2**, enter **Row**s, **C**olumns and H**eader** information.

Figure 1. Select Table Properties
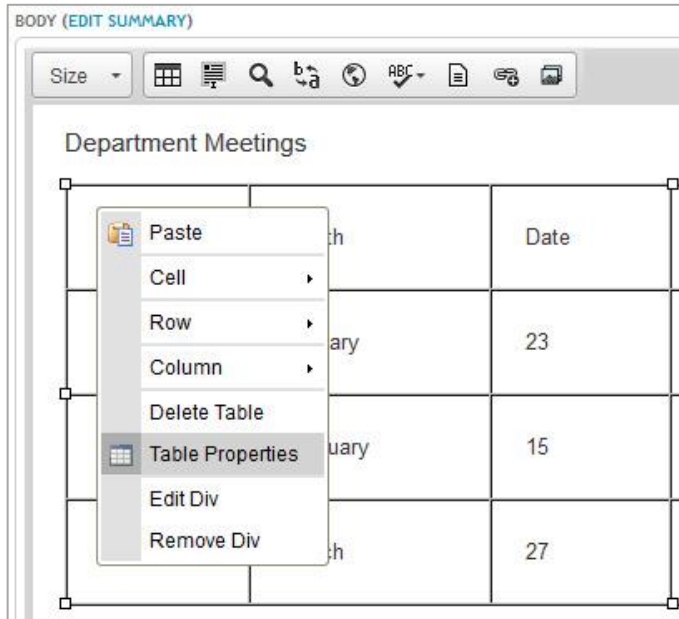
Figure 2. Table Property Window
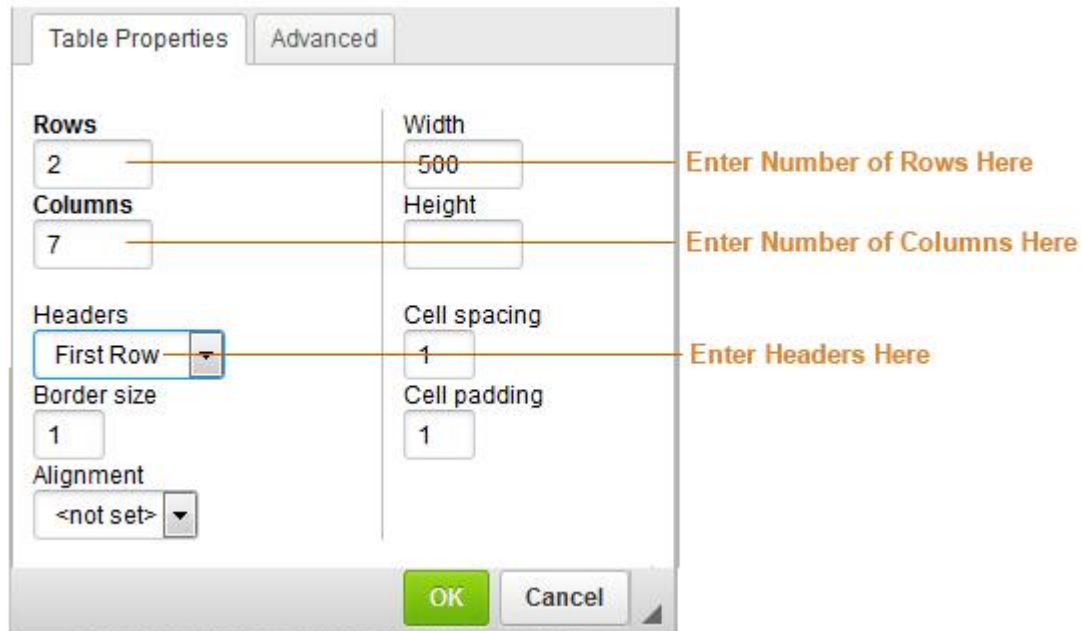
Guideline 3 – Headings and Page Structure

Section 508: § 1194.22 (d)

Requirements

Headings are used to show the relative importance of text on a page and used to define new sections of text. They enable screen reader users to navigate the page effectively. Headings should be displayed in a logical order.

The H1 Heading is reserved for the "Page Title". When a new page is created in the WCM the H1 Heading is automatically generated as the "Title" of that page.

Example of Correct Heading Structure

H2 Heading
In a porta massa. Praesent euismod ipsum tellus, et bibendum

H3 Heading
In a porta massa. Praesent euismod ipsum tellus, et bibendum

H4 Heading
In a porta massa. Praesent euismod ipsum tellus, et bibendum

H5 Heading
In a porta massa. Praesent euismod ipsum tellus, et bibendum

H6 Heading
In a porta massa. Praesent euismod ipsum tellus, et bibendum

How to Apply in the WCM

1. Log in to the Drupal WCM and **Add New Content** or **Edit Existing Content**.
2. Click on the arrow next to the **Format** drop down menu on the toolbar per **Figure 1** below.
3. From the drop down menu, per **Figure 2**, select appropriate **Heading** (2, 3, 4, 5 or 6).
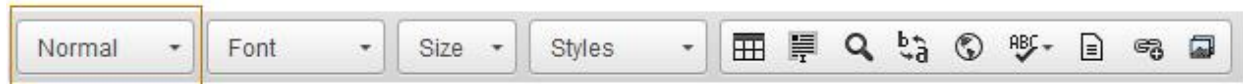
Figure 1. Toolbar

Figure 2. Heading Drop Down Menu

Select Heading Options Here

Guideline 4 – Colors and Contrast

Section 508: § 1194.22 (c)

Requirements

Many users may not be able to perceive color differences due to color blindness or low vision. Make web content accessible to color blind users by using the following guidelines:

- Ensure that all information conveyed with color is also available without color.
- Text, graphical elements and their background colors must have sufficient contrast.

Color Should Not be The Only Way to Convey Information

Color should not be the only way to convey information, indicating an action, prompting a response, or distinguishing visual elements. This information should also be clear without the use of color. For example, it's important to include the actual text "Error", "Alert" or "Important" to describe a problem.

Compliant Example: <h3 >Error: You did not complete the appropriate fields</h3>

Non-Compliant Example: <h3>You did not complete the appropriate fields</h3>

Sufficient Contrast Between Text, Image and Background Color

Provide enough contrast between text/image and its background so that it can be read by people with low vision who do not use contrast-enhancing assistive technology.

Default Drupal Template – High Contrast Feature:

Our standard default Drupal template includes a High Contrast feature and functionality.

Figure 1. Accessing Accessibility Services in Drupal Template

Figure 2. Accessing High Contrast Feature in Drupal Template

Free Tools to Use for Testing Contrast Ratio
- Snook - http://snook.ca/technical/colour_contrast/colour.html
- Contrast Analyzer for Windows/ Mac - http://www.paciellogroup.com/resources/contrast-analyser.html
- WebAIM - http://webaim.org/resources/contrastchecker/
- Contrast Ratio Calculator - http://www.msfw.com/accessibility/tools/contrastratiocalculator.aspx

Guideline 5 – Links

Section 508: § 1194.22, (o)

Requirements

Ensure that all links are informative, and meaningful when read out of context. Link text should be a meaningful representation of the link target.

Single-word links rarely provide adequate description of the information to be accessed. Screen-reader users may be unable to easily access contextual information related to a link.

Single word links represent small targets for persons who have difficulty controlling a pointing device due to motor impairments. Placing long lists of text-based links close together in rows or columns increases the probability of a mouse error. Links listed horizontally or in a multi-column fashion should be visually distinct and separated by vertical bars (|) or graphics with appropriate alternative text.

- Avoid the use of single word links ("Here", "More", "Go").
- Links shall be clear, descriptive and able to stand alone.
- Avoid enclosing text links in brackets, braces, parentheses or other punctuation.
- Content developers may further clarify the target of a link with an informative link title.

Incorrect Hyperlink Text/Method	Correct Hyperlink Text/Method
Open file	**Open Budget Analyst Report (MS Excel)**
Contact the **Webmaster**	**Contact the Webmaster**
Click here to visit City Assessor web site	**Visit City Assessor web site**

# Guideline 6 – Multimedia

Section 508: § 1194.22 (b), (j)

Requirements

- **Text Equivalent or Captions:** All media that is presented on the site must have a text based equivalent or synchronized captions. Users who are deaf, hard of hearing, or having trouble understanding the audio information can read the text alternative.
- **Flash:** Flash based media is not allowed on City related websites as it is not accessibility compliant.
- **Animated Gifs:** Avoid the use of animated gifs.
- **Screen Flicker:** Content should be created to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

Video Content with Audio

Captioning should be provided for the audio portion of a video. The captioning must be synchronized with the audio so that someone reading the captions could also watch the speaker and associate relevant body language with the speech.

Figure 1. Example of Synchronized Captions
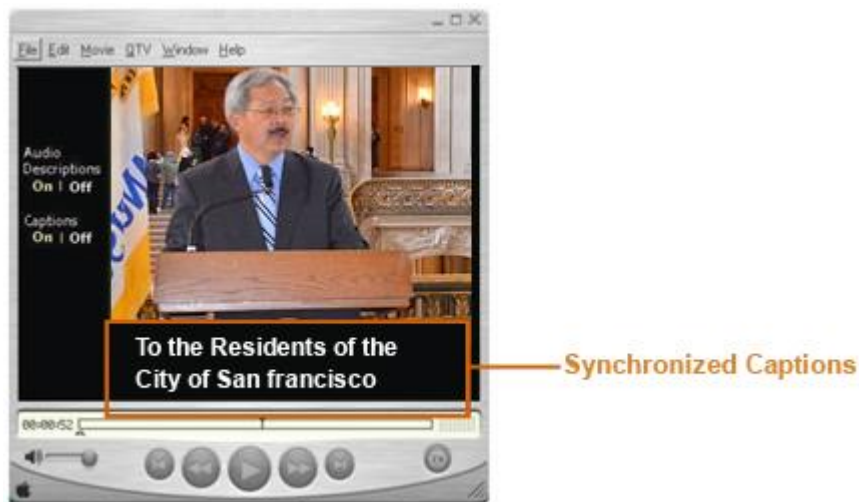
Providing captions for video content is the preferred option by the City and County of San Francisco. If captions are not available then a HTML or text-transcript or text based summary must be provided.

Audio-Only Content with No Video

Audio files with no video are not considered multimedia. However, since audio is a non-text element **one of the following** text-equivalents must be provided for deaf or hearing impaired users.
- HTML based transcript
- Text transcript
- A text or HTML summary

Guideline 7 – Online Forms

Section 508: § 1194.22 (n)

Requirements

Ensure that online form fields use label elements and provide logical tab order so that disabled people using screen readers or only a keyboard can successfully access and submit forms.

Use Label Elements

Use explicit labels for form fields so that screen readers know which text label goes with what form field.

The value of the "for" attribute in the label tag must be the same as the value of the "id" attribute of the form control.

Submit Contact Information

First Name

Last Name

SEND

```
<form>
    <legend>Submit Contact Information</legend>
    <label for="firstname">First Name:</label>
    <input type="text" name="firstname" id="firstname" />
    <label for="lastname">Last Name:</label>
    <input type="text" name="lastname" id="lastname" /><br />
    <input type="button" value="SEND" onClick="javascript:void(0);"/>
</form>
```

Provide Logical Tab Order

Page authors should ensure that fields are laid out in a fashion that provides an intuitive tab order. For example, in an address form, page authors would ensure that the tab order for fields would be "Address One", "Address Two", "City.

```
<form>
    <label for="bill1">Address One: </label><input id="bill1" type="text" name="billing_one">
    <label for="bill2">Address Two: </label><input id="bill2" type="text" name="billing_two">
    <label for="billcity">City: </label><input id="billcity" type="text" name="billing_city">
</form>
```

Guideline 8 – Attachments

Section 508: § 1194.22 (m)

Requirements

When adding attachments to a web page, they must be accessible and viewable by disabled users. The following guidelines should be adhered to.

1. If a page (or pages) on your web site includes links to a PDF, MS Word, Excel, Flash or other file type, you must provide a link to where the user can download a Viewer in order to view the attachment.
2. The link description to the attachment must reference what type of document that it is.
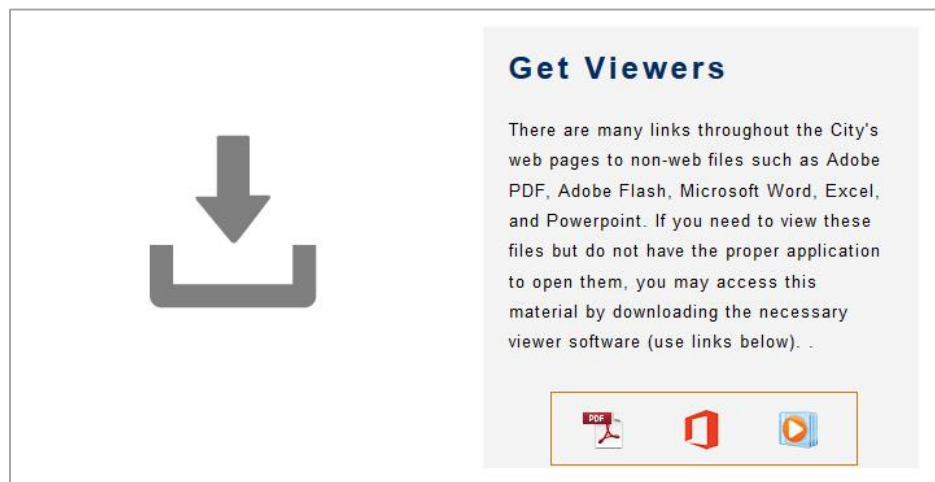
Download Viewers

Our standard Drupal template already includes a global Accessibility icon and page with links to download viewers for PDF, Word, Excel, PowerPoint, Video and Audio documents.

Figure 1. Accessing Accessibility Services in Drupal Template

Figure 2. Accessing Download Viewers in Drupal Template

Examples of Correct Link Formats and Extensions for Attachments

- View the Child Support Employer Guide (PDF)
- Download the Payment Instructions Document (Word)
- Get the Latest Calendar Information (Excel)
- Quarterly Reports for 2012 (PowerPoint)

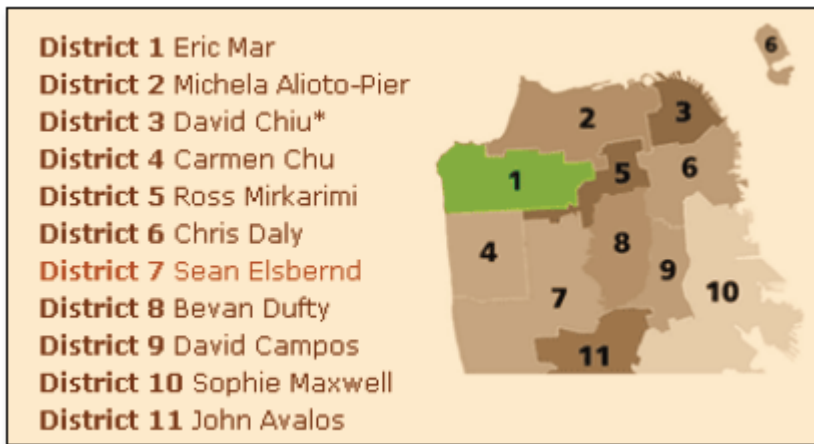# Guideline 9 – Image Maps

Section 508: § 1194.22 (e), (f)

Requirements

The following specifications need to be used when incorporating image maps to web pages.

- Client-side image maps should be used instead of server-side image maps.
- AREA elements must include alternative text attributes.
- Redundant text links should be provided for each active region.

Include Alternative Text for AREA Elements

To make an image map accessible, content developers must ensure that they include appropriate ALT attributes for each hot spot or AREA element within an image map.

Compliant Example

```
<img src="map.gif" width="436" height="220" border="0" usemap="#bs _ map"
alt="Click on Map to find your supervisor.">
<MAP NAME="office _ map"> <AREA SHAPE=POLY COORDS="5,11,32,15,11,10,11" HREF="/districts/
d1.html" ALT="District 1"> <AREA SHAPE=POLY COORDS="7,95,7,104,8,104,8" HREF="/districts/d2.html"
ALT="District 2"> etc...</MAP>
```

Provide Redundant Text Links

Provide redundant text links for each active region of a client-side image map

Compliant Example

```
<OBJECT data="navbar1.gif" type="image/gif" usemap="#map1">
<MAP name="map1"> <P>Navigate the site. [<A href="permits. html" shape="rect"
coords="0,0,118,28">Permit Services</A>] [<A href="reviews.html" shape="rect"
coords="118,0,184,28">Plan Reviews</A>]  [<A href="inspections. html" shape="rect"
coords="276, 0,276,0">Inspection Services</A> ]</p></MAP>
```

Guideline 10 – PDF Documents

Section 508: § 1194.22 (m)

Requirements

All images placed within a PDF document must be appropriately tagged and include an ALT description.

It is also good practice to tag the document with a main heading in order to enforce a logical reading order and hierarchy.

a) Add Formatting and ALT Description to Images Using Word

You can easily use **Word - Microsoft Office 2010** to format and tag a Word document prior to saving it as a PDF document.

Heading 1 – Select the title or main heading in your Word document and apply a Heading1 tag from the MS Word toolbar.

Alt Description – After adding an image to your Word document, select and then right hand click on the image. From the menu, select "Format Picture". From the left hand panel, select "Alt Text" and enter a Title and Description.

Save the formatted Word document in PDF format.
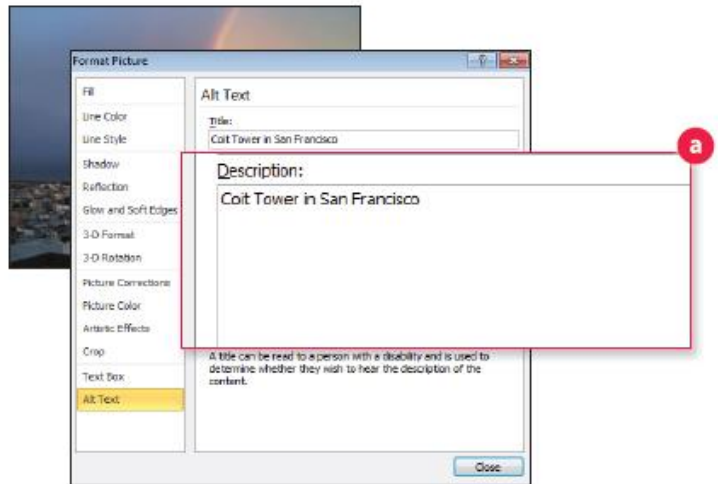
b) Add ALT Description to Existing PDF Document Using Adobe Acrobat Pro

1. Go to Tools > Advanced Editing > TouchUp Object Tool.

2. Right hand click on the image that requires an Alt description and select Properties

3. Select the Tag tab and enter the alternative text in the form field entitled Alternate Text.

4. Save and close document.
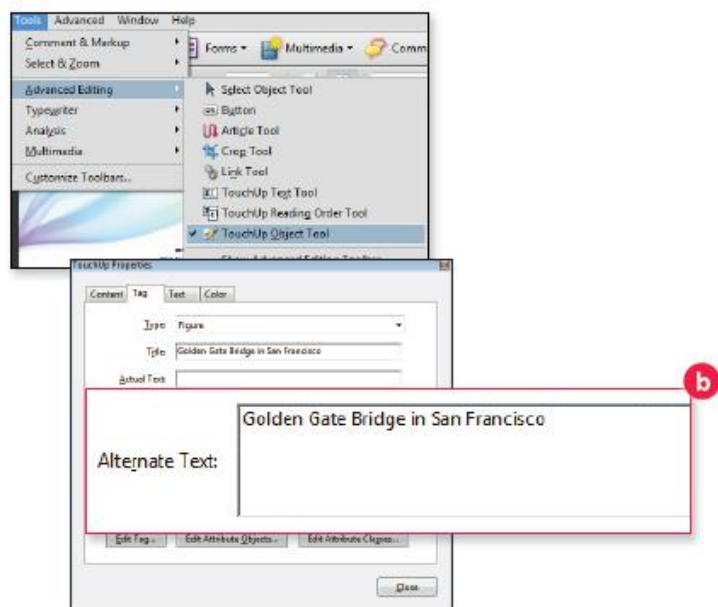
Accessibility Validation and Remediation Tool

Once a new page has been created or a modification to an already existing page has been made in the Web Content Management System (WCM), it should be tested for Section 508 Accessibility Compliance prior to being published. Following are the steps to take in order to validate and, if necessary, remediate content for accessibility compliance.

Validating Content for Accessibility Compliance in the WCM

1. Once you have created new content or modified existing content click on **Save**.
2. Click on the **Accessibility link** that appears at the top of the new/ modified page, per **Figure 1**.
3. Review the accessibility results, per **Figure 2**.

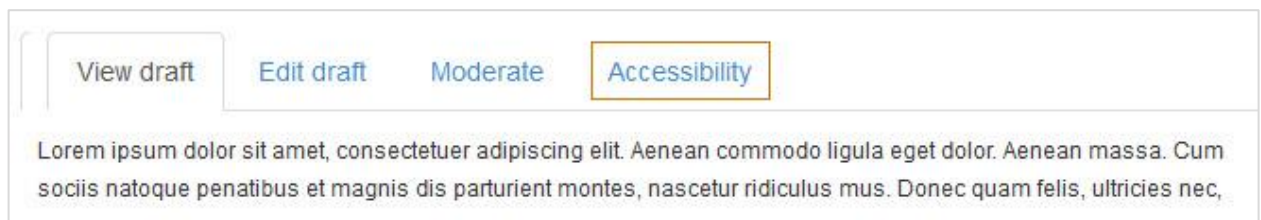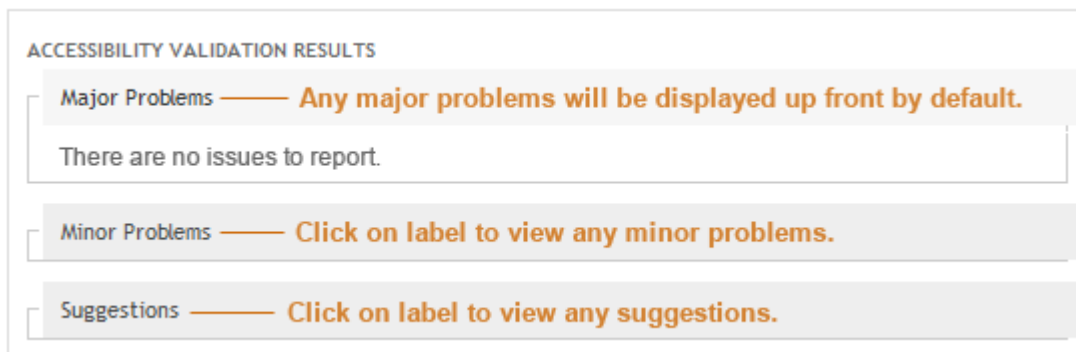**Figure 1. Accessibility Link**

Figure 2. Accessibility Results

Remediating Content for Accessibility Compliance in the WCM

1. Review the accessibility problems and solutions, per **Figure 1**.
2. Click on **Edit Draft**, per **Figure2**, to edit and remediate accessibility problems.
3. On Edit Draft page make the necessary edits.
4. Save changes and repeat validation to ensure accessibility compliance.

Figure 1. Accessibility Problems and Solutions

Figure 2. Edit Draft Link

Additional Accessibility Guidelines

Section 508: § 1194.22 (i),(k), (l), (p)

Frames and iFrames

Ensure that all frames and iframes include the **"title"** attribute to describe the function, content or purpose of each frame/iframe.

Frames

Compliant Example

<FRAMESET cols="15%, 85%"> <FRAME src="leftmenu.html" title="Left Navigation Menu" name="menu"> <FRAME src="maincontent.html" title="Main Content" name="content">

Non-Compliant Example

<FRAMESET cols="15%, 85%"> <FRAME src="leftmenu.html" title="Nav" name="menu"> <FRAME src="maincontent.html" title="c_frm" name="content">

iFrames

Compliant Example

<iframe width="360" title="The Department of Human Resources Forum" height="270" src="http://www.youtube.com/embed/ejdzffEH9AU" frameborder="0" style="padding-bottom: 30px; padding-left: 20px; width: 360px; padding-right: 20px; float: right; height: 270px; padding-top: 5px;"></iframe>

Non-Compliant Example

<iframe width="360" height="270" src="http://www.youtube.com/embed/ejdzffEH9AU" frameborder="0" style="padding-bottom: 30px; padding-left: 20px; width: 360px; padding-right: 20px; float: right; height: 270px; padding-top: 5px;"></iframe>

Text-Only Pages

- A text-only page, with equivalent information or functionality, shall be provided.
- Text-only pages must contain equivalent information or functionality as the primary pages.
- The text-only page must be updated whenever the primary page changes.

The requirements for this guideline are already built in to the core template for Drupal customers.

Figure 1. Accessing Accessibility Services in Drupal Template

Figure 2. Accessing Text-Only Feature in Drupal Template

Scripting Languages

When pages utilize scripting languages to display content or interfaces, the information provided by the script should be identified with functional text that can be read by assistive technology. If functional text is not provided, the screen reader will read the content of the script itself in a meaningless jumble of numbers and letters.

Apply keyboard triggered/device independent event handlers in addition to regular event handlers.

Regular Event Handlers	Corresponding Keyboard Event Handlers
OnClick	OnKeyPress
OnMouseDown	OnKeyDown
OnMouseUp	OnKeyUp
OnMouseOver	OnFocus
OnMouseOut	OnBlur
OnDblClick	OnKeyDown

Compliant Example

 Yahoo Home Page

Timed Responses

Ensure that users have enough time to read information or fill out a form. When a timed response is required, the user should be alerted via a prompt and given sufficient time to indicate if additional time is needed.

For example, someone with extremely low vision may be a slower-than-average reader. A page may "time out" before he is able to finish reading it or fill out a form.

Avoid Requiring Time-Based Responses

Web pages are sometimes designed with scripts or automatic refresh commands that cause the page to automatically reload if a response is not received within a specified amount of time.

- Page authors should ensure that such functionality is not provided within pages.
- If such functionality must be used, authors should ensure that there is a mechanism allowing customers with disabilities to indicate that they require extra time to fill in the form.

Avoid Usage of Time-Based Sessions

The usage of time based sessions, or sessions that automatically log a customer off after a certain period of inactivity, can cause the customer to have to respond within a certain amount of time.

- Customers should be provided with the ability to set the value for the automatic logoff time. This will ensure that the customer can control the amount of time after which they have been logged off.
- If this option is not available, the system wide setting should be set to a high value such as an hour as a default session timeout value.