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LEARNING ACTIVITY - Document Analysis

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LEARNING ACTIVITY

Document Analysis

Using the Audience Profile worksheet you completed previously, analyze a before-and-after of the “How Wastewater is Treated” webpage on the Macon Water Authority (MWA) website.

The “before” is the exact text and formatting that was on the webpage until late 2023 and is available on page two of this document. The “after” is the redesigned webpage, and you can view the “after” online at <https://maconwater.org/education/how-is-wastewater-treated/>.

In your small groups, discuss the following questions:

1. Look at the “Before” and “After” pages. Based on the audience profile you completed previously, how well do the changes to this webpage content and design match your audience profile? Provide evidence from the document to support your response.
2. Using the Federal Plain Language Guidelines, discuss how the document does or does not comply with these guidelines.
3. What changes would you make to this document to make it better match your audience and achieve your communication goals?

“Before” Version of “How Wastewater is Treated” Webpage

How Wastewater Is Treated. (n.d.) Macon Water Authority. Retrieved August 16, 2023, from <https://maconwater.org/education/how-wastewater-is-treated/>

HOW WASTEWATER IS TREATED

A typical wastewater treatment plant, such as the Lower Poplar and Rocky Creek facilities owned and operated by the Macon Water Authority, utilizes several (5 typically) steps to recycle wastewater. Wastewater treatment plants are also referred to as Water Reclamation Facilities, noting that wastewater is “reclaimed” for beneficial reuse—either directly or indirectly returning to raw water storage facilities such as reservoirs/lakes, rivers, streams, etc. Solids that are byproducts of the wastewater treatment process are also handled according to strict environmental regulatory oversight—provided by the US EPA on the federal level and the state EPD in Georgia.

The five steps of the wastewater treatment process include: preliminary treatment, primary treatment, secondary treatment, tertiary or advanced treatment, and finally disinfection. The steps are outlined in more detail below:

Source: Water Environment Federation

Preliminary Treatment is the first stage that involves influent (wastewater entering the treatment plant) having many of the solids removed—with the use of screens, grit chambers, etc.—so that they do not clog pipes and disable treatment plant pumps down the line during the treatment process.

Primary Treatment involves a more sophisticated settling tank—also called a sedimentation tank or clarifier—that operates to remove most of the solids that will float or settle.

Secondary Treatment is a process that features a highly controlled artificial environment that allow microscopic organisms to feed on waste still present in the wastewater, biologically converting these dissolved solids into suspended solids that can then physically settle out.

Tertiary or Advanced Treatment is used to improve the quality of the water even more, in some cases removing specific toxic substances, but in most cases removing suspended solids and nutrients. In addition to nutrient removal, advanced treatment may utilize some form of filtration to achieve a higher level of suspended solids removal than is possible through primary and secondary screening and sedimentation.

Disinfection is the final step or stage of the wastewater treatment process before water is released back into the environment. Disinfection significantly reduces any remaining bacteria and viruses and helps protect the public from exposure to potentially pathogenic microorganisms.

Solids processing and handling are also necessary components of the wastewater treatment process. Untreated solids are often referred to as sludge, while treated solids are referenced as biosolids. The first steps in handling solids involves conditioning and thickening, since they are typically only about 3 to 6 percent solid—a concentration that is predominantly water. Next, stabilization processes are used to further treat the sludge by reducing odors and pathogen

levels, so that the product can be beneficially used or disposed of without posing a hazard in the environment. The last step in the solids handling process is dewatering, which is typically achieved through mechanical means.

Macon Soils is the Authority's subsidiary that handles and disposes of treated biosolids that are the result of the wastewater treatment processes at the MWA's Lower Poplar and Rocky Creek Water Reclamation Facilities (wastewater plants).