

PROJECT SCOPE

Project Description and Need – Emerging Contaminants Water Treatment Plant Upgrades

The City of Hollywood (City) owns and operates a 59.5 million gallon per day (mgd) water treatment plant (PWS ID No.: 4060642) that utilizes conventional lime softening (LS) (37.5 mgd) and nanofiltration (NF) membranes (14 mgd) processes to treat raw water from the surficial Biscayne Aquifer, in combination with reverse osmosis (RO) membranes (8 mgd) to treat brackish water from the Floridan Aquifer. These treatment processes operate in parallel, and the treated product streams are blended prior to disinfection and distribution. The City's population is 153,067. The City is considered a financially disadvantaged community because it has a median household income (MHI) of \$56,912, which is less than the State of Florida's MHI (\$61,777).

The City's water sampling program has identified the presence of emerging contaminants (**Table 1**), that are listed on the United States Environmental Protection Agency's Fifth Unregulated Contaminant Monitoring Rule (USEPA's UCMR5), in the raw water that supplies the water treatment plant. Under recent USEPA action, proposed maximum contaminant levels (MCLs) have been established for PFOS and PFOA, together with a compliance deadline of December 2026. The City is preparing to evaluate alternatives for improvements to the treatment facility to comply with proposed regulations related to emerging contaminants, evaluating the existing treatment processes as well as other treatment technologies that may be incorporated into the process that may cost-effectively maintain compliance with the subject regulations.

This application is for funding of a program that is intended to address public health and welfare of the City's drinking water customers by providing compliance with the proposed regulations related to emerging contaminants for the long term, in the most cost-effective manner possible. The proposed program consists of:

1. Preparation of a study to evaluate the ability of the existing treatment processes to meet the subject regulations. Based on data available to date, it appears that the existing NF and RO processes can meet the current proposed MCLs, whereas the LS process will require upgrades to meet the proposed MCLs. This study will evaluate the following alternatives:
 - a. Maintaining the existing NF and RO processes and upgrading the LS process with granular activated carbon (GAC) (e.g., retrofitting the existing gravity filters with GAC) as necessary to comply with the subject regulations.
 - b. Maintaining the existing NF and RO processes and upgrading the LS process with anion exchange (either pre-treatment or post-treatment of the LS product water), as necessary to comply with the subject regulations.
 - c. Decommissioning the existing LS process and increasing the capacity of the membrane processes (both NF and RO) to replace the lost LS capacity.

The study will be incorporated into the Facilities Plan and Planning Document in accordance with DWSRF funding requirements.

2. Design of the improvements identified in the above alternative analysis study.

In summary, upon completion of the Treatment Technology Alternative Analysis and Planning Document, including a Facilities Plan with an Environmental Assessment Report in accordance with 62-503.700, Florida Administrative Code (FAC) and 62-503.751, FAC, the City intends to proceed with the design phase to prepare for implementing the recommended treatment alternative. This project will be located at the City's existing water treatment plant site, located at 3441 Hollywood Boulevard, Hollywood, Florida 33021, as presented in **Figure 1**.