

ORANGE WATER AND SEWER AUTHORITY

WASTEWATER TREATMENT PLANT ODOR ELIMINATION PROGRAM

April 2016

PURPOSE: To provide information about OWASA's efforts to eliminate objectionable off-site odors at the Mason Farm Wastewater Treatment Plant (WWTP).

BACKGROUND: On March 1, 2004, the Chapel Hill Town Council approved a Special Use Permit (SUP) for an OWASA project to upgrade and expand the WWTP which was completed in 2007. The SUP included a provision that OWASA eliminate odor from the WWTP to the satisfaction of the Town Council and that OWASA regularly report to the Council on the progress of its off-site odor elimination program. Since 2004, OWASA has systematically completed a series of capital improvement projects towards the odor elimination goal.

WORK ACCOMPLISHED: Our investments in off-site odor elimination at the WWTP since 2000 total about \$9 million. Those improvements are expected to have a useful life of about 20 years, so our customers will incur additional capital costs in the future when facilities need renovation or replacement. The estimated annual operating costs related to odor improvements are about \$200,000.

Major projects already completed include:

- Four separate studies to assess and determine the appropriate remedial actions for the various odor sources at the WWTP;
- Construction of a biofilter to treat exhaust air from the solids handling facility;
- Covering the solids storage basins and treating the exhaust air through a scrubber;
- Establishment of an in-house odor monitoring program, including the installation of hydrogen sulfide (H₂S) monitoring equipment at various locations around the WWTP that provides automated monitoring and an alarm system for odors related to H₂S; and
- Covering and treating exhaust air from the new headworks structure
- Covering and treating exhaust air (via carbon filtration) at the influent and effluent splitter boxes leading to and from the primary clarifiers, intermediate pump station wet wells (#1 and #2), aeration basin influent channel, and all three primary clarifiers.
- Covering and treating exhaust air from 10 of the plant's 16 aeration basins

The substantial investment by the community to eliminate odor from the WWTP has produced very positive results, as demonstrated by decreasing trends in neighbor reported odor events. While significant progress has been made towards our odor elimination goal, we expect that future odor events will periodically occur since it is not practical or cost-effective to completely eliminate all odors at wastewater treatment plants at all times. However, OWASA remains committed to being a good neighbor and to continue our vigilance to take necessary and reasonable actions to minimize the frequency, intensity and duration of future odor events.