ADEQ
Arizona Department of Environmental Quality
Janet Napolitano, Governor
Stephen A. Owens, ADEQ Director

FACT SHEET

Bella Terra on Oak Creek Wastewater Treatment Facility

WHAT IS THE AQUIFER PROTECTION PERMIT PROGRAM?

The Aquifer Protection Permit (APP) program is Arizona's keystone program for protecting groundwater quality. APP requires that facilities use the **best available demonstrated control technology (BADCT)** to reduce or eliminate the discharge of pollutants to groundwater so that the pollutants do not cause or contribute to a violation of aquifer water quality standards at the point of compliance. Aquifer water quality standards are the **same as drinking water standards**.

WHY DOES BELLA TERRA ON OAK CREEK REQUIRE AN APP?

Bella Terra on Oak Creek is a proposed new subdivision consisting of 106 lots on 53.5 acres bordering Oak Creek that was historically operated as a ranch. Based on the number of lots and occupancy figures, the sewage treatment facility at build out will generate approximately **24,000 gallons of treated wastewater per day**. An APP must be obtained by any facility that discharges directly into an aquifer or onto the land surface potentially polluting an aquifer. Additionally, Arizona law specifies that sewage treatment facilities must operate under an APP.

The 24,000 gallon per day (gpd) sewage treatment facility has been designed by the Santec Corporation. This is a common "package plant" in Arizona. The plant will denitrify the effluent and use disinfection to kill bacteria before disposal through **low pressure subsurface drip irrigation of on-site vegetation**. In response to concerns of the public, the permittee proposes to replace the chlorination-dechlorination disinfection with ultraviolet disinfection. There is **no storage of liquid or gaseous chlorine** on site and **no mixing of chemicals** with ultraviolet disinfection.

While the original APP application was for B+ reclaimed water, the applicant agreed to upgrade BADCT and the draft APP is written for **A+ reclaimed water**. In addition to subsurface irrigation, the subdivision plans to reuse reclaimed water in the future.

The permittee has demonstrated that the facility **complies with county zoning** ordinances and regulations.

The facility meets the required 50-foot setback from homes and has **full noise and odor control** in the form of air scrubbers and covers over all treatment processes.

HOW DOES ADEQ KNOW THAT THE FACILITY WILL MEET THE APP REQUIREMENTS?

In order to minimize the possibility of a catastrophe, the permit addresses both the **financial capability** and the **technical capability** of the permittee as well as requirements for **contingency plans**. The permit requires a backup power source and redundancy in engineering. Monitoring and reporting of the discharge from the plant is also required.

WHAT WATER QUALITY CONCERNS ARE RELATED TO THIS APP?

There are three aquifers in this area. The local aquifer, the Oak Creek Alluvial aquifer, is associated with the alluvial deposits within the channel of Oak Creek and is generally less than **20 feet below ground surface (bgs)**. There are two regional aquifers.

The subdivision is located on the banks bordering **Oak Creek, a "unique" Arizona surface water.** The disposal fields are between 900 and 1400 feet north of Oak Creek. As a unique water, Oak Creek is given the highest level of water quality protection – **there can be no degradation of surface water quality** due to discharges or other permitted activities. Oak Creek has special nutrient standards for nitrogen and phosphorous. According to state law, no APP shall violate surface water quality standards.

WHAT CHANGES HAVE BEEN MADE SINCE THE PUBLIC NOTICE DRAFT APP?

Since the public hearing, the permittee has **added two additional locations** for effluent disposal. In addition to the main disposal field, the permittee has

added two new fields that will be used in series with the primary field. The additional disposal areas will reduce the rate from 0.74 gallons per square foot (gsf) to 0.37 gsf. Additional reduction to 0.20 gsf is expected to be achieved with reuse. As noted above, ultraviolet disinfection has replaced the chlorination and dechlorination disinfection processes originally proposed.

WHAT ARE THE NEXT STEPS IN THE PERMITTING PROCESS?

ADEQ is reviewing and preparing responses to the numerous comments received. A final permitting decision will be made once that process is complete, including whether additional revisions to the draft permit are required.

ADDITIONAL INFORMATION

For more information regarding this permit, please contact:

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