

## **Technology - fits the bill**

### **SBR plants provide wastewater treatment solution for housing developers**

*\* Susan Pilgram*

**Developers seeking to build new homes in housing developments are sometimes required to install a wastewater treatment System in order to obtain construction permits, depending on the regulations in their particular state.**

Often, the System must be installed quickly, and then disassembled and relocated to other developments once the homes have been built.

When all the homes in the development have been completed and the plant's flow rate is no longer adequate for the volume required, a full-scale permanent wastewater treatment facility must be built.

A sequencing batch reactor (SBR) can be designed to meet the requirements of new housing developments because it delivers high quality effluent; can be constructed and installed quickly; requires a low initial cost investment; and can be easily disassembled and relocated.

#### **Technology available**

One System on the market, the Omniflo SBR (from USFilter), is a fill and draw, non-steady state activated sludge process in which one or more reactor basins are filled with wastewater during a discrete time period and then operated in a batch treatment mode.

The SBR accomplishes equalization, aeration and clarification in a timed sequence in a single reactor basin. It is especially suitable in cases where nitrification, denitrification and biological phosphorous removal are required. A single cycle for a Batch reactor consists of five discrete periods-fill, react, settle, decant and idle.

The System is unique in its ability to handle influent flows and a wide range of organic loads. Its operating strategy provides process control over a wide range of

flows. By varying the operating strategy, aerobic or anoxic conditions can be achieved to encourage the growth of desirable microorganisms. This specific SBR design was geared toward wastewater treatment projects in housing or commercial developments with start-up flows from 0.1 to 0.5 mgd.

### **Arizona developer incorporates technology**

When an Arizona housing developer wanted to build single-family homes in a growing residential community, the developer first needed to install a wastewater treatment system in order to obtain permits for construction.

The developer chose an Omniflo SBR that was specifically designed to meet the needs of all parties involved in the housing development project. The System was designed for fast-track Installation and the ability to be disassembled and relocated for future developments. The Installation consists of a two-tank SBR System with a Vari-Cant jet aeration System (also from USFilter) for treating 250,000 gal of wastewater per day. The plant was constructed with separate steel bolted tanks for aerobic digestion, post equalization, filtration and disinfection. Additional equipment included screening and an ultraviolet system.

The wastewater plant design turned out to be an ideal solution for the developer, who wanted to begin selling homes at a small investment. Because it was uncertain how many homes would ultimately be built, the developer needed a plant that could be quickly installed and then relocated once the project was complete. The SBR system's steel-bolted, field-erected tanks fit the bill.

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