

### **Extended Aeration Treatment System:**

It is an innovative activated sludge process using extended retention of biological solids to create an extremely stable, easily operated system. The capabilities of this unique technology far exceed ordinary extended aeration treatment. The process maximizes the stability of the operating environment and provides high efficiency treatment. The design ensures the lowest cost construction and guarantees operational simplicity. The system utilizes a longer sludge age than other aerobic systems. Sludge age, also known as SRT (Solids Retention Time) or MCRT (Mean Cell Residence Time), defines the operating characteristics of any aerobic biological treatment system. A longer sludge age dramatically lowers effluent BOD and ammonia levels, especially in colder climates.

The system's long sludge age process produces BOD levels of less than 10 mg/L and complete nitrification (less than 1 mg/L ammonia). Minor modifications to the system will extend its capabilities to denitrification and biological phosphorus removal.

### **System Construction**

A major advantage of this system is its low installed cost. Most systems require costly in-ground concrete basins for the activated sludge portion of the process. This system can be installed in earthen basins, either lined or unlined. The fine bubble diffusers require no mounting to basin floors or associated anchors and leveling. These diffusers are suspended from the Bio-Flex floating aeration chains. The only concrete structural work required is for the simple internal clarifier(s) and blower/control buildings.

### **Aeration System Components**

The ability to mix large basin volumes using minimal energy is a function of the unique BioFlex moving aeration chains and the attached BioFuser fine bubble diffuser assemblies. The gentle, controlled, back and forth motion of the chains and diffusers distributes the oxygen transfer and mixing energy evenly throughout the basin area. No additional airflow is required to maintain mixing.