

the Ozark Villas, Shell Knob, MO



onsite wastewater treatment facility

cattails and bulrushes in the wetland cell



The Ozark Villas at the Shell Knob Senior Center and residential housing complex is a collection of 32 duplex units and 32 single-family homes. Discharge of the 12,000 gpd system is to the Lake --- and because of very real concerns with phosphorus, the Missouri DNR required a phosphorus limit of 0.5 mg/L. Reaching these low levels in Missouri had never been achieved in small wastewater treatment systems.

NSI was asked to design a demonstration facility that would be inexpensive to build and operate. Treatment elements consist of interceptor tanks with biofilters for every two units, a small diameter collection system (2 inch sewer lines, no manholes), constructed wetlands with a gravel trickling filter (recycle mound), a recirculating sand filter, and a alum polymer for the phosphorus. Essentially the system operates by itself with an operator visiting once every two weeks. The system was started in April of 2003.