

# California Town Has Serpentix In New Complex To Haul Sludge

*THE SERPENTIX BELT cradles sludge cake being carried from a two meter belt filter press to a waiting truck. In the background, operation of the two systems*

*is discussed by Robert L. Geyer (right), superintendent of the Scotts Valley Wastewater Treatment Plant, and Mark Cattera, Class I operator at the facility.*



A new solids handling building with a 26 foot continuous path Serpentix conveyor is part of a \$3 million expansion of the Scotts Valley Wastewater Treatment Plant (WTP) in California.

Located near the northern rim of Monterey Bay in Santa Cruz County, Scotts Valley has a population of approximately 7,000.

Its early beginnings as a retirement community have changed over the past five years. This was brought about by a number of electronics-oriented firms locating in the community and providing it with a small industrial base.

The WTP solids handling building, built at a cost of \$384,000, became fully operational in February, 1985. It was the fifth phase in an expansion program which started more than seven years ago. The consulting engineering firm of Harris & Associates of Lafayette, Calif., was in charge of the expansion with Dave Newton serving as project manager. Dan Cortinovis was resident engineer.

The facility originally served a trailer community. It was taken over as the municipal treatment plant for the city in 1966. Continued growth of the area required expansion of the secondary treatment capabilities of the facility from a design capacity of 440,000 gallons per day (gpd) to 800,000 gpd.

The expansion plan took place over a seven year period with incremental addition of new facilities, according to Robert J. Geyer, plant superintendent. He reports to Jack Elzer, director of public works for Scotts Valley.

Current average flow of the plant is 530,000 gpd, Geyer said. The final



*A 45 DEGREE CLIMB is made by the Serpentix conveyor as it carries sludge cake from the belt press and discharges it into the waiting truck. The material is trucked from the facility's Solids Handling Building to a landfill in Marina, California.*



step to complete the current expansion, startup of the solids handling building, is providing large annual savings for the city.

Prior to bringing the solids handling building on line, Geyer explained, the activated sludge from the plant was stored above ground in old 10,000 gallon gasoline tanks. A daily tanker service hauled the sludge to Marina, Calif., near Monterey, where it was sprayed on the land. Annual cost of the service was approximately \$200,000, he added.

With the new solids handling building now in full operation, sludge production and disposal has been simplified and costs have been reduced to approximately 20 percent of those experienced with the older method, Geyer said.

The Scotts Valley WTP influent from more than 27 miles of sewer is treated in Scotts Valley and the effluent is pumped eight miles to the

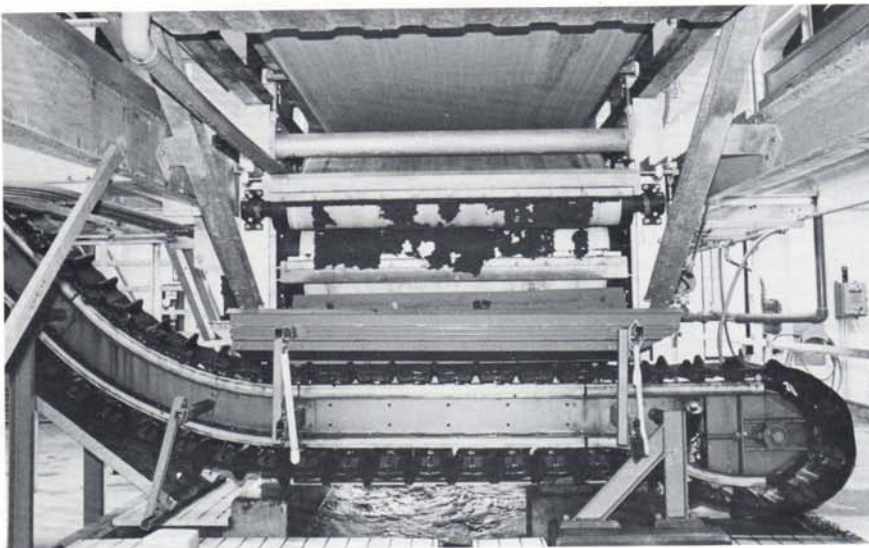
neighboring city of Santa Cruz. There it is mixed with the Santa Cruz effluent and the combined effluent load is discharged into the Pacific Ocean.

Waste activated sludge is conditioned with polymer then dewatered in the Scotts Valley solids handling building and discharged from the two-meter belt press as an 18 percent cake. The sludge cake is loaded onto the continuous path Serpentix conveyor and transported up a 45 degree incline for an elevation gain of nine feet. The conveyor then levels off and discharges the sludge into a truck.

An average of seven tons of

dewatered sludge is transported from the plant every other day to a landfill in Marina, Geyer said. The continuous path conveyor in the solids handling building has a centerline length of 27 feet and is powered by a two horsepower motor. The 20-inch wide, convoluted belt travels at a speed of 15 feet per minute (fpm) and is designed to carry .9 tons per hour (tph).

Geyer served as senior operator of the treatment plant in Livermore, Calif., a seven million gallons/day (mgd) facility, prior to taking over the post in Scotts Valley almost two years ago. He is one of five employees at the plant. ■



*DEWATERED SLUDGE IS loaded from the filter press onto the Serpentix. The continuous path conveyor then makes a sharp vertical turn in the left of the photo to start the 45 degree climb shown in upper right photo.*