

## **Landfill Information**

### **Richard Allen, Solid Waste Operations Manager**

In 1975 Charlotte County opened its first and only municipal solid waste sanitary landfill adjacent to Zemel Road, in south Punta Gorda, with a disposal area of approximately 100 acres. Shortly thereafter, the County purchased additional adjacent acreage to be used for the future disposal needs of our community. Based on population growth projections and the continuation of current disposal practices, the county's landfill has disposal capacity for our community's refuse needs that is projected to last until the year 2066.

Today's sanitary landfills are designed, operated, monitored and closed in accordance with stringent federal, state and local regulations. These regulations require controlling landfill gas, protecting ground and surface water from contamination, and preventing hazardous waste from entering the landfill. Regulations also ensure that any hazardous waste discovered on site is properly handled, stored, and disposed of at a permitted facility designed to accept hazardous materials.

At the Zemel Road Landfill, waste is delivered each day in a variety of vehicles. Trucks are weighed and directed to a designated unloading area where the waste is dumped and checked for hazardous or unacceptable material. The garbage is pushed into place by a 125,000 pound waste compactor that crushes, shreds, and compacts the garbage with huge spiked wheels.

One day's worth of waste is called a cell. These cells are developed next to each other, ultimately forming a lift or layer of trash. Lifts are constructed until the designated final elevation is reached. When the maximum elevation is reached the landfill stops receiving trash and closes.

Our solid waste division has partnered with Charlotte County utilities to use dewatered domestic sludge as landfill cover. The sludge is mixed with yard waste and used to cover the garbage buried in the landfill, helping to reduce the use of purchased soils, as well as helping the Utilities Department with their disposal need. Burying waste is the least expensive method of handling refuse.

The landfill's environmental impact is controlled by installing a leachate containment, collection, and processing system. Leachate is the term used to describe liquid that has passed through buried solid waste, which is considered a pollutant. The leachate treatment facility uses activated carbon to filter out the pollutants; thereby, keeping these pollutants out of our ground water.

The Zemel Road Landfill operates as an enterprise fund which means it is self supporting through tipping fees. The rates are \$36 per ton for county residents, \$72 per

ton for non-residents. The County wants the landfill to last as long as possible and accepts but discourages out-of-county trash.

Florida has recently adopted a state-wide recycling goal of 75 percent by the year 2020. The more that is recycled will result in less being put into the landfill and will extend the life of the landfill. This is a challenging goal that will require adjustments in our community's business and household solid waste management practices.

There are several solid waste process methods available with today's technology. Waste-to-energy incinerators produce renewable electricity. In-vessel composting composts the garbage into a soil-type product. Bio-reactor landfills speed up the decomposition of the waste buried in the landfill and therefore generate more disposal space, in theory. A new and evolving technology called "plasma-arc incineration" vaporizes waste into a gas which produces less than 10% residue and generates electricity.

To be included in the master plan of the landfill these new technologies require careful evaluating and will need to demonstrate a proven ability to process solid waste efficiently, economically, and in an environmentally safe manner.

The county is currently in the final phases of installing a gas-to-energy system that produces marketable electricity in an environmentally-friendly manner. The methane gas produced by the landfill is collected through a series of pipes and pumps, and is then used to power generators which produce electricity.

In developing a long-term strategy, our solid waste division strives to reach out to the community and to explore current, new, and future technologies. We look forward to the challenges and opportunities to maximize our resources, protect our environment, and ensure we have long-term solid waste solutions for the residents and businesses of Charlotte County.