

## WATER ENVIRONMENT ASSOCIATION OF TEXAS

### RONALD B. SIEGER BIOSOLIDS MANAGEMENT AWARD

...presented to a WEAT member(s), an engineering firm, a specific project, a municipality, or a specific municipal or industrial facility that has made significant accomplishments in the field of biosolids technology and management practices within the boundaries of the State of Texas.

#### **Hornsby Bend Biosolids Management Plant Austin Water Utility**

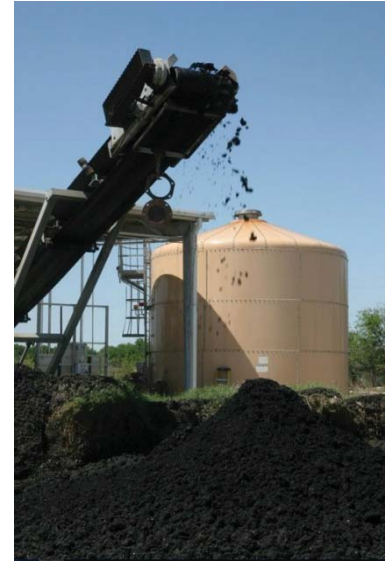
The City of Austin Water Utility is committed to protecting, conserving, and restoring the ecology of Austin. The Hornsby Bend Biosolids Management Plant (Hornsby Bend) plays a key role in that effort by recycling Austin's biosolids and yard trimmings through its composting program. The facility has received many local, state, and national awards for environmental excellence, including twice winning the Environmental Protection Agency's first place national award for biosolids recycling. Additionally, the 1200-acre Hornsby Bend site's 180 acres of treatment ponds are Austin's most popular bird watching destination. The American Bird Conservancy and the Audubon Society have recognized the facility as a site of global significance for bird conservation by designating it an Important Bird Area for North America.

Hornsby Bend helps further knowledge of biosolids processing and impacts, as well as Austin's ecology, through the research and education supported by the Utility's Center for Environmental Research (CER). Located at Hornsby Bend, the CER is a partnership with the University of Texas at Austin and Texas A&M University. Ongoing research at CER into biosolids impacts on the soil food web and ecosystems as well as research into emerging trace contaminants reflects the significant contributions of Hornsby Bend to our knowledge of biosolids. In short, Hornsby Bend is a model for innovative approaches to protecting urban ecology and developing ways to benefit the environment such as reducing waste, producing compost, and protecting ecosystems.

The Hornsby Bend Biosolids Management Plant receives all solids generated at the City's wastewater treatment plants, Walnut Creek and South Austin Regional. Currently, Hornsby Bend receives 1 to 1.5 million gallons of primary and activated solids at a solids concentration of 1.5% solids concentration, which is pumped from the wastewater treatment plants to Hornsby Bend. The solids treatment train at Hornsby Bend consists of the following: sludge screening, equalization/mixing tank, gravity belt thickeners, mixed blending tank, anaerobic digesters and dewatering belt presses. Digested and dewatered biosolids are either land applied on Hornsby Bend property, land applied off-site by a contractor or composted. AWU has land applied biosolids to 550 acres at Hornsby Bend since the mid-1980s. Today approximately one-third of the plant's solids production are land applied on-site, one-third are composted, and one-third are land applied off-site by a contractor.

Liquid sidestreams generated in the treatment of the biosolids are routed to an on-site sidestream wastewater treatment plant and the treated sidestream flows are ultimately discharged into a four pond treatment system. Water from the ponds is used for irrigation on the Hornsby Bend property, as the plant is a "zero discharge" facility. Gas produced in the digestion process is used as fuel in boilers, to heat the digesters, to fuel two on-site 400-KW electric generators, or flared.

Austin's stringent pretreatment program requires that local industries and businesses treat or remove contaminants from their wastewater before it is discharged into the City's wastewater collection system. This program ensures that Austin's biosolids meet all state and EPA requirements for safe recycling and reuse. All of Austin's biosolids are beneficially reused through their well-established composting and land application programs. The cornerstone of the Austin Water Utility's recycling efforts is the Dillo Dirt™ composting program – which celebrated its 20th anniversary in 2007 and was the first biosolids composting program in Texas. Using the windrow composting method, the City generates about 40,000 cubic yards of compost annually. The operation recycles not



only digested biosolids, but also all of the residential yard waste that is collected curbside in the City. Overall, compost production represents about onethird of the plant's biosolids production. The Utility currently composts on a 14-acre roller compacted concrete pad and on a seasonal basis composts in two existing sludge storage basins. "Dillo Dirt" is donated to schools, parks and nonprofit organizations and is also sold to more than 60 licensed commercial vendors for retail. Demand for the product often exceeds available supply. Because of the success of the Dillo Dirt program and demand for the product, the Utility is currently expanding its composting operation, and is constructing an additional 15-acre concrete composting pad to the north of the existing pad. The compost pad expansion, digesters improvements and numerous other upgrades at Hornsby Bend are being funded with a \$31.8 million zero-interest federal stimulus loan. Last year the Texas Water Development Board ranked the Hornsby Bend Improvements Project as the #1 "Green Project" in Texas and awarded it 80% of the "Green Reserve" funds from the Texas Clean Water State Revolving Fund.