

caustic sodium hydroxide came to be too big of a safety concern or problem, we had another option already built in that gave the contractor some flexibility on how he was going to do the remedial work.”

An added advantage to using the windrows for the alkaline hydrolysis process was that they could reuse a previous remediation area.

“We already had this remediation area developed and laid out to do the windrows on, so it was the perfect fit,” said Meadows. “Being able to use the remediation area gave us a cost-savings from not having to develop new remediation areas each time. That’s a big part of the cost.”

In addition to reducing remediation costs, Huntington District has also provided work for local businesses.

“For the actual labor and equipment,

everything is purchased or rented up in the Sandusky, Cleveland area,” said Humphreys. “We’re trying to keep it local and keep the money in the economy.”

The FUDS program for the Great Lakes and Ohio River Division is managed by the USACE Louisville District, which is responsible for all projects within Kentucky, Indiana, Illinois, Ohio, West Virginia and Michigan. Because of the Huntington District’s existing involvement with PBOW, they continue to manage this project and use Nashville as their design district.

“Even though the Louisville District is the program manager, you’re getting the project technical management services from Huntington District and the design services from Nashville District,” said Meadows. “So, we’re all working together

as one team to achieve the FUDS mission.”



Lisa Humphreys

The USACE Huntington District used liquid ferric sulfate and sodium hydroxide pellets to remove the contaminants of concern in 3,000 tons of excavated soil at Plum Brook.

## Native grasses help restore former defense site

By Jenn Domashevich, public affairs

Green plants have many purposes in the environment, they serve as a habitat for small animals, provide food for others and for the U.S Army Corps of Engineers (USACE), they serve as a mechanism to protect remediated sites. At the former Kentucky Ordnance Works (KOW) in McCracken County, Ky., vegetation is being used to protect a soil cover, while also providing a habitat for birds and small animals that call the grassland community home.

The former Kentucky Ordnance Works served as an explosives manufacturing facility during World War II, producing approximately 196,490 tons of trinitrotoluene, more commonly known as TNT. The site was decommissioned soon after the end of the war and the buildings were removed. During the operations and demolition of the site, waste material, including coal ash and construction debris, was disposed of in a 2.5-acre area known as the West Gravel Pits.

During the Louisville District’s environmental investigation of KOW, it was determined that most of the waste material in the West Gravel Pits had been covered with native soils, but some of the material was open to the environment.

“Sampling of the West Gravel Pits

showed concentrations of metals in the surface soils that represented a threat to wildlife,” said Louisville District technical manager Doug Meadors.

The selected remedial action was to construct a soil cover over the area and re-route surface drainage. Site work was performed in 2009. A soil cover acts as a barrier between the buried waste and the surface, preventing the public and environment from being exposed to the waste.

“Key to maintaining the soil cover is having plants living on the cover material,” said Meadors. “If the soil cover was not covered in vegetation, water from storms could erode the cover away over time.”

The vegetative cover was established by seeding the area with native warm season grasses, including Indian Grass, Big Bluestem, Little Bluestem and Prairie Switchgrass. Native warm season grasses are tolerant of dry weather and other environmental challenges. Erosion-resistant mats were also placed on various slopes of the site to provide a stable base for the grasses to take root. Vehicle traffic is prohibited from the site to prevent erosion of the installed cover.

The grasses continue to flourish on the

West Gravel Pits, and plant growth will eventually contribute to the creation of soil structure and wildlife habitat.

“Kentucky was once covered by about three million acres of grasslands, and much of the Kentucky grasslands were populated with bison,” said Meadors. “This planting harkens back to how Kentucky looked in those pre-settlement days.”



Douglas Meadors

The selected remedial action at Kentucky Ordnance Works was to construct a soil cover over the West Gravel Pits, which would act as a barrier between buried waste and the surface, preventing the public and environment from being exposed to the waste.